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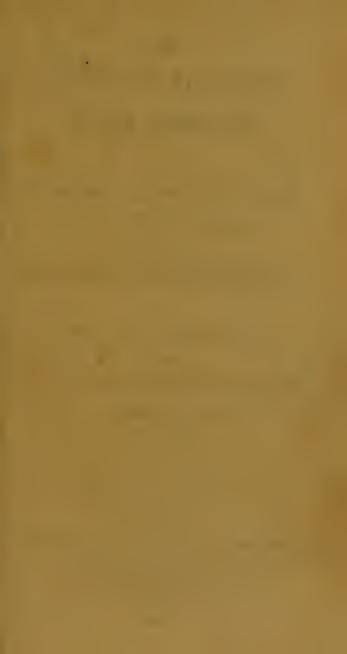
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# JOSEPH HOPKINS, M. D.

PHYSICIAN EXTRAORDINARY

THE DUCHESS OF KENT'S HOUSEHOLD,

AND

PHYSICIAN ACCOUCHEUR

TO THE

WESTMINSTER LYING-IN INSTITUTION.

IN TWO VOLUMES.

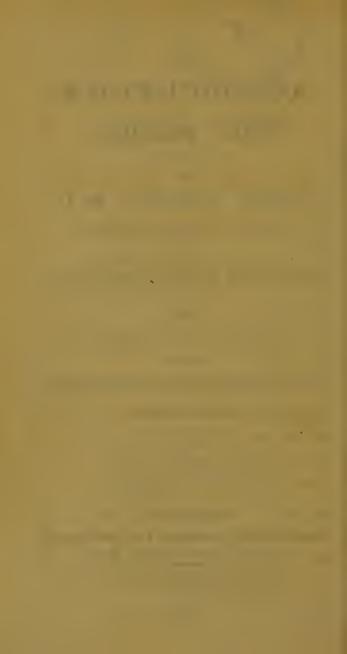
Vol. I.

#### SEVENTH EDITION.

#### LONDON:

Printed for Highley and Son, 174, Fleet Street, By E. Rayer, Harvey's Buildings, Strand.

Price Ten Shillings and Sixpence.



# SIR HENRY HALFORD,

BART, M.D. F.R. & A.S.

### PHYSICIAN TO THE KING.

SIR,

IMPRESSED with a high sense of your professional acquirements and abilities, and the interest you at all times take in the improvement of medical knowledge;—I have taken the liberty of laying before you, for perusal, the result of fifty-six years of my practice; fully persuaded that your approbation of its arrangement and contents would considerably tend to realize my sincere wish.

of affording to the student in midwifery much useful information in a portable form, and at the same time confer a lasting obligation on,

Sir,

Your most obedient

Humble Servant,

JOSEPH HOPKINS.

Queen's Square, Westminster, September 30, 1820.

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#### AN

# INTRODUCTION

TO THE

#### OBSTETRIC SCIENCE.

This compend of Midwifery was originally intended for the use of Gentlemen who favoured the Author with their attendance on his Lectures; but after considering the importance of the subject, he was induced to render it more public.

First, In treating on Parturition, it is necessary we should know the proper meaning of the word. It may be understood in a limited sense, or in one more extended.

I. Some confine it only to the process of delivery, which is, probably, from their knowing it is practised by women; and as in general by those of

Vol. I.

little knowledge; whereby they infer, that little is required. It is true, sometimes there is no necessity for art; in forty-nine cases out of fifty, nature would do the business herself, but what is to be done in the fiftieth case, if the person be ignorant?

II. In a general sense, Midwifery implies that branch of medicine which treats of pregnancy and its consequences, comprehending

Conception, Utero-Gestation, Delivery,

Recovery, and the treatment of such diseases as occur in early infancy.

Second, It is a duty incumbent on the teacher of every art, whose labour is intended for the good of humanity, to make it as subservient to the benefit of his pupils as he is capable,

and to lose no opportunity of enlightening it with such rays as the test of experience proves to be beneficial. The Author's discoveries in the profession may claim no particular merit, yet he flatters himself, the concise manner in which they are detailed will be acceptable to readers of experience. The work contains a view of the rise and progress of the science, accompanying it through various gradations, elucidating qualifications requisite for an established Accoucheur, and shews the utility of corroborating theory with practical illustrations

Third, a Parturient Establishment to provide a routine of real cases would be advantageous. The Westminster Lying-in Institution was founded for these purposes, January 1, 1801, where the lectures, machine operations and actual labors during one month, qualify Gentlemen in the profession: (pupils should first attend in company with an Accoucheur, to obtain general information, whereby they are enabled afterwards to act alone;) and I have the honour to assert, that no one has attended that time, without feeling sufficient confidence, and being fully competent, to engage in public practice.

Fourth, The endowments of a female of the human race in the state of simplicity, are adequate to the safe management of the parturient process; as a woman during travail consistently with her situation, unavoidably adopts the natural, which is the snrest mode of protecting her infant, by being unable to attend to its wants or cries till after delivery of both it and the secundines; especially, as

the expulsion of the latter is not simultaneous, and the intermediate space of time allows of the establishment of respiration.

After the placenta is separated from the uterus, the funis immediately becomes flaccid; so that whether the former be excluded from or retained in the uterine cavity, it is immaterial how, where, or when the latter is divided, and all parturient females are sensible it should be done.

Fifth, The above painful state calls the sympathizing attention of the elders of the sex, whose judgement, guided by natural impression, or knowledge uninfluenced by art, was equal to occurrences in the primitive period, and who were accustomed to separate the appendages from the child, instead of the mother doing it.

The division of the funis was for-

merly thought to require so much skill, that it created the professional name of Midwife. This operation is said by some to have been the rise of the science; but the earliest accounts we are able to obtain inform us, that like many other professions, it originated from necessity; and is so extremely ancient, that it seems to have sprung up with the first race of mankind.

Sixth, Prior, and a number of generations subsequent to the flood, this science was the province of females only. In those days the average of human age was many centuries.

Seventh, Whether it were men or women employed before the profession became regulated according to scientific rules, their attained abilities increased with years, until the progressive mutation in society and civi-

lization, when natural acquirements became superceded by the innovation of art, which in time established itself by habit or second nature; consequently—

In the present era we find women apply to Gentlemen of professional repute, not only for relief

Of general maladies,

Of uterine complaints, or

Of diseases of the pregnant state, but also for their special assistance during Parturition.

Eighth, Daily experience affords ample testimomy, and all medical men are now sensible of the utility of Obstetric knowledge; from their

Situation,

Duty,

Connexion,

Engagement, or from

Casualty in life, they become lia-

ble to be called upon to afford relief; especially those commissioned in the Army, who are expected to assist the men's wives in travail; that class of women being excluded from other help. In consideration of which, the Professional Officers in His Majesty's service are privileged to attend the Westminster Lying-in Institution, Queen Square, during each course of Obstetric Lectures; by sanction of the Medical Board, and the gracious approbation of His Royal Highness the Commander in Chief.

Ninth, From a knowledge of the other branches of medicine, we must be aware of the grand importance midwifery holds in the present day. Obstetrication is a practical art of the greatest delicacy, which in all ages has engaged the attention of the most distinguished characters of the

medical profession; and as the male has merited, by his apt succour, the perfect confidence of the female, whereby in preference to her own sex she makes choice of the former as her aid in the most trying hour of parturition; so that his pre-eminence of management is now undubitable. From a conviction thereof, and the substantial feminine advantage accruing, professors ought ever to commemorate the immortal Hippocrates, for pointing out to posterity the way to extend their usefulness and ability.

Tenth, That which enobles any science is the dignity of its object, and the public utility arising therefrom; so that, if we rate the value of Midwifery by the advantage it procures to the human race, it will be found superior to all others; in as much as most of them are only sub-

servient to the conveniences of life, but on the due exercise of this art immediately depends the preservation of life itself, even in a double capacity.

Eleventh, From a long experience, it is manifest that, with a general knowledge of the other branches of medicine, the Obstetric art, which is usually final, may be acquired within a very short space of time, and with a degree of perfection capable of gaining self confidence and public satisfaction; both which are indispensably requisite to arrive at eminence; and there is no part of science, however, abstruse, that industrious and diligent perseverance, with a well-directed course of study, will not ultimately overcome.

Twelfth, By taking a view of the Obstetric art, as practised in the

latter times, we find progressive improvement, and additional rays of light shed thereon, till about the year 1700, when it began to be treated as a distinct branch; and notwithstanding the scientific attainments might thereby have been considerable, yet it is evident that the first effects were the three following;—

A too high opinion was entertained thereof,

Too much confidence placed in our own dexterity, and

Too little dependance on the resources of nature, instead of being influenced with a due sense of her sufficiency.

These remarks are amply verified in the work of Smellie, who was the greatest improver of the Obstetric art, prior to his time, and whose writings are fraught with the most accurate descriptions; at the same time, the cases given are so replete with directions for their management and instrumental assistance, that we might suppose artificial delivery was his chief study.

We are sensible that circumstances occur in practice, even during regular labor, creative of supposed complexures; and occasion to the female such extreme anguish and torture as are emphatically compared to the pains of hell, of which a skilful practitioner is aware of and may account for. But whether difficulties are real or imaginary, it is an axiom in the science, that the interposition of art, although maturely digested and judiciously applied, tends to oppose the efforts of nature. The truth of this doctrine, while passing on towards maturity in the profession,

we shall more and more experience.

As an acquaintance with her native power enlarges, so will scientific abilities increase.

Thirteenth, The qualifications requisite for the exercise of the art, are

The middle age,

A capability of fatigue,

A small hand with strong and flexible joints,

A sound intellect.

A composed mind, and-

A discreet, sober, cheerful, and humane disposition.

Fourteenth, Owing to the interest of society and claim of individuals, the profession is a solemn trust to those who engage in its operative part; who when called to attend the lives of women and children submitted to their care, are sacredly responsible. With these impressions, I have en-

Vol. I.

deavoured to place the process of natural labor in the clearest light, as a guide to the other classes.

The former part of this work is confined to the principles, descriptions, and particular attainments, previous to actual Parturition. The latter elucidates the science by classes. In the method of their arrangement, I have made it my chief study to simplify the rules, the more easy to comprehend the meaning of the various particulars thereof.

#### PROSPECTUS.

- I HAVE endeavoured to demonstrate, ---
- I. The parts concerned in Conception, Utero-Gestation, and Parturition.
- II. The Economy, Physiology, and Pathology of those parts.
- III. The Catamenia, and treatment of diseased Menstruation.
- IV. The Theory of Conception and Generation, the Symptoms and Diseases incident to the Pregnant State, the Prevention and Management of Abortion, and the Causes of Sterility.
  - V. The peculiarities of the Fætal State.
- VI. The Classification of Labor, distinguishing Parturient from Spurious Pains.

VII. The different Stages of Natural Labor, and their Characterizing Changes.

VIII. Premature, Protracted, Preternatural, and Complex Parturition, with the Mode of Ascertaining Plurality of Children.

IX. The various Presentations requiring Manual Aid, and the easiest Method of using Instruments on an Apparatus resembling Nature.

X. The safest Operation of Turning the Fœtus in Cross Positions, and of Saving the Life of the Infant when the Funis has descended below the Head.

XI. Labors attended with Hemorrhage or Convulsions.

XII. The Management of New-Born Iufants with Suspended Animation.

XIII. The most approved Practice in cases of Retained Placenta from Morbid or Spasmodic Affections of the Uterus.

XIV. Treatment during the Puerperal State.

XV. Treatment of Diseases of early Infancy.

XVI. Directions for Dry-Nursing, and the Management of young Children.

XVII. Description of Wet-Nurses, and Quality of the Milk.

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For a Course of Lectures with Cases, ... £4 4s. without Cases, £2 2s.

The many Cases Students have an opportunity of attending, render a second Series of Lectures unnecessary; each Course commences the first Monday in every Month.



## OBSTETRIC ADVICE.

A general knowledge, professional talents, public and private character, must all concur to attain an excellence in physic; but more especially in Midwifery is our conduct observed.

Consider the sex, in excruciating pain imploring our assistance, not only as individuals but as professional men! likewise, regard the delicate feelings, and refined sentiments of mind of an enlightened female, the ornament of society, from whom, under Providence, we derive our temporal origin, and greatest secular happiness!

Further, Heaven only knows the extent of intellect conferred upon that being about to be ushered into life; the benefits mankind may derive from its exertions; the wonderful discoveries it may make which have hitherto

evaded the research of science! It may be superior to Hippocrates, Newton, or Harvey; therefore claims the application of every mental and personal ability we possess, with all the means of preservation, both for the parent and the child.

In the Obstetric science, secrecy and chastity are points of importance. What woman will disclose her mind to a man, in whom she cannot fully confide? or, What husband will apply to one of an immoral character to assist his wife in travail? as the life of all that is held most dear to him, in a temporal sense, is given up to the practitioner's care. We should ward against every sinister view, or impure end, with respect to our tender charge: as the most laudable motives ought to actuate every feeling of humanity in aiding into this world a succeeding generation.

Respecting the conduct of attendants during parturition, we should exhibit a superiority over ignorance or inaccuracies, liable to be met with in Nurses official, or other persons; not by a pointed disgust, open negligence, or an austere distance, but by an affable and

steady perseverance in those means experience dictates; especially as a degree of reputation depends upon that class of people.

It is incumbent on us, as professors of so respectable a science, to exhibit an example of humanity and true benevolence, particularly towards other practitioners. Our general conduct in the female society should be influenced by honor, integrity, and great condescension. Liberality being the ornament of our profession.

# REGULATION FOR PUPILS.

- I. Berone any Gentleman is called upon to act, he will have an opportunity of attending two cases by seniority of his admission, under the direction of an Aecoucheur, which afford the means of acquiring the necessary preparatory knowledge, and afterwards will be employed in rotation. A course of Lectures is imperfect until that number is completed; frequently a pupil delivers many additional patients before the end of the month, when his certificate will be presented. On account of the many cases the Institution provides, it is termed "The Practical Obstetric Establishment."
- II. No Gentleman who is called to attend a labor, can be permitted to take with him another, nor can be send any one in his place.
- III. When a Gentleman has received notice to be in readiness to attend at a labor, it is re-

commended for him to accept of the offer if possible; in any case a decided answer will be expected.

IV. Every Gentleman engaging to attend at a labor when called upon, will (agreeably to his own promise), be expected to hold himself in readiness for that purpose; but in case of failure, and it becomes necessary to send another in his stead, (a circumstance which must always be attended with much delay, inconvenience, and often danger to the patient); the Gentleman committing such neglect forfeits one labor from the number allotted to him.

V. Every Gentleman who goes to a labor is expected to stay until it is finished: but in case he is called where the patient is under a mistake, he may leave her, having previously taken an examination for the necessary information. In this state it is recommended that he should call upon her again soon.

VI. As every Gentleman undertaking a labor necessarily pledges himself to attend the woman during her recovery, he will consequently see the propriety of calling upon her each day until she is in a perfectly safe condition.

VII. In case of serious indisposition, danger, or difficulty during labor, the Gentleman attending is requested to send, if possible, a written message to the Physician-Accoucheur; but, if it be on the latter occasion, he is on no account to leave the patient.

VIII. In attending labors it is particularly requested, that pupils avoid all conversation tending to excite apprehension in the patient, such as description of bad cases, the state of their experience in obstetrical subjects, anatomical dissection, &c.

### THE

# ACCOUCHEUR'S

# VADE MECUM.

VOL. I.

# CHAP. I.

# ANATOMICAL DESCRIPTION.

To illustrate the science on which I am about to treat, it will be unnecessary to enter into a detail of the human structure, but it may not be irrespective to give an outline of the parts more immediately concerned in Midwifery; and therefore, I trust, with a general knowledge of anatomy, the following brief description will give a comprehensive view thereof.—I shall begin with,

Vol. I.

#### THE PELVIS.

This structure is below the last lumbar vertebra, and is to be considered

First,—With respect to its connexion with the uterus and vagina.

Second,—To its immediate relation to the delivery of the child.

Third,—To the obstacles which in many instances it opposes to the passage of the latter.

Fourth,—To its size, but there are more of one particular dimension than any other, hence a standard one.

The knowledge of a standard pelvis is necessary, it being a fixed point to be kept constantly in view, and in relation to which, the general rules of practice are founded. and,

Fifth,—To its distinction. The female pelvis being less massy but more capacious than that of the male, the ilia more distant, the brim more oval, the acetabula smaller and at a greater distance, the cavity shallower,

the sacrum less curved, and the angle of the pubes larger.

### The Fætal Pelvis.

Is separable into eight bones, which remaining distinct till near the age of puberty, afford mobility, and allow them in a degree to give way to pressure, and overlap each other; by which parturition is facilitated when this part passes first; as for instance, in breech presentations.

### The Adult Pelvis.

Is composed of only four bones, The Os Sacrum, or rump bone, forms the posterior part,

The Os Coccygis, or huckle bone, the inferior, and

The Ossa Innominata, the lateral and anterior parts.

### Os Sacrum.

This bone serves as a basis for the support of the spine, of which it is an imperfect con-

tinuation, of a triangular figure, with the shortest side upwards. The anterior surface is smooth and has a curvature to enlarge the cavity of the pelvis, and accommodate the forehead of the fœtus in its passage, called the hollow of the sacrum. In infants, it is composed of four or five bones, joined by intervening cartilages, termed False Vertebræ. These cartilages in the adult become bone, leaving lines on the anterior surface, shewing their former separation. The bones diminish in size as they descend. The lowest forms the point.

The superior part of the Sacrum joins the inferior lumbar vertebra, the latter generally inclining over the former makes an obtuse ridge, called the Great Angle, or Jetting-in of the Sacrum. From this, the bone is curved on both sides, towards the sacro-iliac junction, contributing to the formation of the brim of the pelvis. On the anterior surface are disposed in two longitudinal rows, four or five pair of holes, according to the number of bones composing it, for the transmission of nerves; and between which is the attachment of the rectum. The lateral parts form a broad

surface connected with a similar one at the posterior part of the ossa innominata. The point joins the superior part of the coccyx; the latter being broader than the former, makes the small angle of the sacrum.

# Os Coccygis

Is an appendage, attached to the inferior part of the sacrum, and is so called from its resemblance to the beak of a cuckoo. In infants it is cartilaginous, but in the adult is composed of two or three bones connected by intermediate cartilages, between which a regressive motion is preserved. When pressed by the fœtus in labor, it occassions an enlargement of the inferior aperture of the pelvis.

# Ossa Innominata.

These bones are so called, having no resemblance to any other object. They are two in the adult, but in children each is composed of three portions, viz.—The Iliac,

Ischiatic, and Pubic. The names founded on the feetal distinction are retained; as,

Os Ilium, the haunch bone;

Os Ischium, the sitting bone; and,

Os Pubis the share bone, which from ossification form but one, the Os Innominatum. The lines of distinction may be observed at the acetabulum, which is formed by the union of these portions for receiving the head of the femoral bone.

The ossa innominata joining the sacrum, exhibit the sacro-sciatic notch, of which

The Ilium forms the superior part; The Ischium the anterior; and, The Sacrum the posterior.

The innominatum extends backwards, forming internally a surface for articulation with the sacrum; and externally a strong thick projecting ridge, which is turned downwards.

#### Os Ilium

Is the superior portion of the innominatum, of a complicated figure. Its superior concave

space spreads outwards to give room for the expansion of the uterus in gestation. The inferior thick part forms a share of the acetabulum anteriorly, and of the circumference of the ischiatic notch posteriorly, as described above.

The Linea Ilio-Innominata, or Pectinea, is formed by the inferior prominence or smooth angle of the internal sides of the ilia, continuous with that of the pubes, and inclining to the jetting-in of the sacrum. It defines the superior aperture of the pelvis, and parts its cavity from that of the abdomen.

#### Os Ischium

Is the inferior portion of the innominatum, and forms the lower part of the acetabulum. Its spinous process projects inwards and backwards. The obtuse process is thick and turned downwards. The thin process ascends obliquely from the obtuse, and joins a similar one which descends from the anterior inferior part of the os pubis and constitutes the foreside of the foramen magnum ischii.

It is by the distance of one tuberosity from

the other, that we judge of the dimensions of a pelvis at the outlet:

#### Os Pubis

Is the auterior and smallest portion of the innominatum. It forms a part of the acetabulum. The superior edge has a flexure outwards to encourage the entrance of the head of the fœtus into the cavity of the pelvis; and at the inferior part is a divergence which facilitates its passage. It has a thin process which descends obliquely, described above.

### The Arch of the Pubes

Is the anterior curve of the outlet, formed by the Ossa Ischia and Ossa Pubis.

The anterior part of the latter forms the top;

The Thin processes of the Ischia and Pubes the sides; and,

The Tuberosity of each Ischium the bottom.

The anterior superior vacant space in the pelvis above the pubes, allows the contents of the uterus an easy support.

### Connexion of the Pelvic Bones.

The parts of the pelvis are connected by intermediate cartilages and strong ligaments;

First, The Ossa Innominata are united to each other anteriorly, by a double cartilage, termed Symphysis Pubis, and in a similar manner posteriorly to the Sacrum, called the Sacro-iliac junction; these articulations are covered with ligamentous fibres, serving as capsules, on which the firmness of the union depends; likewise the Periosteum is internally thickened at those places.

Second, A Ligament passes from the transverse process of the last lumbar vertebra to the crista of the ilium.

Third, The external Sacro-iliac Ligament passes from the ridge of the ilium to the sacrum, to connect them together posteriorly.

Fourth, The Internal or Anterior Sacroiliac Ligament passes in a similar manner, from sacrum to ilium internally.

Fifth, The External Sacro-sciatic Ligament passes from the tuber ischii to the inferior and outer edge of the sacrum and coccyx.

Sixth, The Internal Sacro-sciatic Ligament arises from the spinous process of the ischium, which crossing and adhering to the former, passes to the inferior and inner edge of those bones. By these,

Additional strength is obtained;

The Sacrum kept at a certain distance from the ischium; and,

The Sacro-sciatic notch converted into an oval hole.

Seventh, The Sacro Coccygeal connects the Os Coccygis to the Sacrum, this ligament has much motion.

Eighth, The Ligamentum Foramen Ovale, fills up the foramen ovale, except a small space at the upper part, for the passage of the artery, vein, and nerve. This serves for the attachment of muscle, but is of no use in connecting bone to bone.

Ninth, The Ligamentum Poupartii goes across from the auterior superior spinous process of the ilium to the crista of the os pubis.

Tenth, The Coceygeus Muscles, which originate from the spinous processes of the ischia with others inserted into the sides of the coccyx, prevent lateral motion.

Eleventh, The Pelvis is joined to the trunk above by means of the last lumbar vertebra, and to the extremities below, by the insertion of the thigh bones into the acetabula.

Having described the various parts of the pelvis separately, I shall consider it in its united form; in which three particulars merit the attention of the Accoucheur.

The Brim,
The Outlet, and
The Cavity of a Standard One.

### The Brim.

The Superior Opening, Entrance, Aperture, or Brim, represents an oval figure. The dimensions are to be taken in three directions.

First, From the superior part of the sacrum to that of the pubes, is four inches and a quarter;

Second, From the inferior prominence of one ilium to that of the other, is five inches and a quarter; and,

Third, From one acetabulum to the sacroiliac junction of the other side, is five inches and three eighths.

#### The Outlet.

The description of the inferior Opening, Aperture, or Outlet, bounded by the pubic arch and sacro-sciatic ligaments, is reversed. Allowing for the regression of the os coccygis, there are five inches from its apex to the lower portion of the pubes; and the inferior parts of the ischia are four inches asunder.

# Capacity of the Pelvis

Implies the Space between the Bones, divided into two cavities, superior, and inferior. The axis of the upper cavity, is in a line from the centre of the diameters at the brim, to the extremity of the os coccygis; and that of the lower cavity, is from the middle between the tuberosity of each ischium to the centre of the hollow of the sacrum.

The axis of the inferior cavity and direction of the vagina are synonymous terms. The tendency of the upper and lower cavities into each other, are illustrated by placing a curved instrument in the axis of the brim, with its extremity in that of the outlet.

The line of motion of the head of the fœtus corresponds to the axis of the part in which it is placed.

# Depth of the Cavity.

From the superior part of the Os Sacrum, in a straight line to the point of the Os Coccygis, when pressed back there is a space of six inches.

The depth of the sides to the inferior extremities of the Ischia is four inches, and

From the superior to the inferior parts of the Ossa Pubis, is a distance of two inches; admitting the ligaments to make a share of the outline of the inferior aperture.

By bearing in mind the two following particulars, we judge how far the head of the fœtus has proceeded through the pelvic cavity, at any period of labor.

First, That the sides of the pelvis are twice, and the posterior part three times the depth of the anterior; and,

Second, The situation of the presentation, at the commencement of that process.

# Form of the Cavity.

Posteriorly, it is concave, laterally and anteriorly, perpendicular; with a convergence towards the inferior aperture, formed by the points of the spinous and obtuse processes of the ossa ischii, and termination of the coccyx; all which are of importance in regulating the descent of the head; and its peculiar form perfected by the soft parts, gives to the presentation, the disposition to emerge under the pubic arch.

The facility of the head passing through the cavity, depends chiefly on the hollow of the sacrum; a similar curvature is continued by means of the ischiatic sinus, and the disposition of the sacro-sciatic ligaments, to the obtuse processes of the ischia at the sides, where the cavity is perpendicular.

#### Small Pelvis.

A Pelvis under the standard dimensions, that allows ultimately an ordinary sized head to pass through its cavity with safety;

First, The projection of the sacrum is touched with difficulty by a vaginal examination, and is the distance of three inches and a half from the ossa pubis.

Second, The concavity of the sacrum is natural without convexity or straightness, and its point with the os coccygis does not press inwards.

Third, The arch of the pubes is in its ordinary state, and we can place two fingers nearly flat under the symphysis, with a distance of three inches and a quarter from one tuberosity to the other.

It is however difficult to determine with precision the dimensions of a pelvis in the living subject, varying as the soft parts within the cavity are more or less swelled.

# Separation of the Pelvic Bones.

It was formerly an opinion that the bones separated in parturition; but by a knowledge of their relation and connexion to other parts, with a sense of the laxity liable to their ligaments, we are enabled to explain many of the sensations women are subject to during pregnancy, at the time of travail, and after delivery.

Frequently we may observe a considerable lameness during labor, and often an inability to walk, or even to put one foot before the other, without being supported between two persons; which indicates relaxation of their connecting medium; when either it or a separation of the bones occur; three causes may be assigned;

A spontaneous disposition of the adjoining parts;

Their morbid affection; and,

The violence with which the head of the fœtus may be protruded through the cavity. After delivery we may ascertain whether either of these effects has taken place, by complaints women make of pain in those places.

Patients are generally relieved of relaxation during their month of confinement; but should it remain longer, the continuance of rest and a recumbent posture favour the restoration of the parts, as by quietude their infirmity must be repaired.

If we were to draw a conclusion from many

of the French writers, we should judge, that a separation of the bones is by no means uncommon; still, however, I must state, a case in which that occurrence was clearly defined has never come under my observation.

### Distorted Pelvis.

The observations on the Pelvic Cavity relate to its natural state and shape; but it is liable to deformity; the most usual causes are

Rachitis;

Scrophula; or

Mollities Ossium.

Diseases incident to children, preventing the bones from acquiring their due strength to support the weight of the body; consequently, they bend in different directions and fix their form for life.

Rickets seldom exist without communicating some effects to the pelvis.

Deformity may be either partial or general; of the brim alone, or of all parts; when the pelvis is small above; it may be expanded below; but the distortion most generally pro-

duced, is by the superior part of the sacrum, and inferior lumbar vertebra, projecting too far towards the pubes; or they may be directed more to one side of the pelvis, rendering its dimensions smaller than the other.

All deformities of the pelvis produce difficulties in labor, from the least, to that which requires the Cæsarian operation. From this consideration, it may be natural to suppose, that a large one will be free from difficulties; but, there are two states of the soft parts, which produce inconveniences in a large pelvis.

First, When they are yielding and ready for labor, a single pain may push away the child, without any previous notice; while had it been a standard pelvis, it would have required many pains; much mischief may occur in this way;

The child may be hurt by the fall;

The sudden manner in which it passes away, may tear off the placenta, and produce flooding; or,

It may occasion inversion of the womb.

Second, Another state of the soft parts, producing inconvenience in a large pelvis, is when they are rigid and not disposed for de-

livery; the uterus is apt to be forced down by the pains; the parts being much under the influence of gravitation.

The patient will be liable to procidentia uteri;

The perinæum exposed to danger, as the full force of the head pressing, may lacerate that part; and,

In case of retroversio uteri, to which such a pelvis tends to produce, a larger space of time intervenes before it returns to its place.

# Bearing of the Pelvis.

Practitioners should know the position of the pelvis with respect to the cavity of the abdomen. We shall see by passing a straight line up the trunk that its axis and that of the pelvis are in different positions, owing to the projection of the lumbar vertebræ:

In the practice of midwifery we find it convenient to place the patient, so that the pelvis may be in different directions; and, as we cannot see it, must make use of our knowledge of its bearing.

First, Placing the patient half sitting, half

lying, brings the brim of the pelvis into a horizontal position

Second, Inclining the trunk forward forms a vertical position.

Third, The patient being on her knees and elbows, the thighs forming right angles with the body, places the plane of the brim downwards and backwards.

### Contents of the Pelvis.

We are now to notice the parts contained in this cavity,

First, The Uterus and its appendages, which are very small in the unimpregnated state.

Second, The Bladder is anterior to the uterus;

Third, The Rectum is posterior. The Bladder and Rectum obviously differ in bulk at different times, being sometimes empty and at other times distended.

Fourth, The Vagina. Besides these there are other parts on the sides of the pelvis, as,

Fifth, The Psoæ Muscles;

Sixth, Blood Vessels;

Seventh, Nerves;
Eighth, Absorbents; and,
Ninth, Lymphatics.

Room is necessary for the lodgement of the above parts, hence the real space for the passage of the child is diminished; which occasions resistance, but is overcome by

### Pressure,

Which deranges the functions of these parts,

First, If on the Bladder, either suppression of uriue, or micturition;

Second, If on the Rectum, tenesmus, constipation, and hæmorrhoids;

Third, If on the Iliac Veins, and Absorbents, ædema of the lower extremities; and

Fourth, If on the Nerves, numbuess with cramps.

# Office of the Pelvis.

The Female Pelvis,
First, Gives attachment to the genitals;
Second, Gives support to the gravid uterus;

Third, Gives a steady bearing to the trunk; Fourth, Forms the centre of the great motions of the body; and,

Fifth, Possesses every peculiarity conducive to the casy passage of the fætus in parturition.

# CHAP. II.

## HEAD OF THE FŒTUS.

Is of an oval Figure;

The shortest oval is from the lowest part of the occiput to the anterior fontanel, four inches.

The medium oval, is from the forehead to the occiput, four inches and a quarter; and,

The longest oval is from the chin to the posterior fontanel, five inches. The long axis of the presentation corresponds to that of the pelvis; and,

The diameter from one ear to the other, or from the protuberance of one parietal bone to its opposite, is less than the long oval, by the same proportion as the diameter from pubes to sacrum at the brim of the pelvis is short of the lateral one. But the dimensions of the head are not precise from the great mobility of parts.

#### Bones.

Those of the cranium proper to notice are four, connected by moveable sutures; viz.

The Os Frontis forms the anterior part;
The Os Occipitis, the posterior; and,
The Ossa Parietalia, form the lateral and
superior parts.

#### Sutures.

The Sutures are many, but we shall enumerate such as hold the external convex division of the skull together, as they only require the Accoucheur's attention.

The Sutura Frontalis, unites the two pieces of the os frontis together;

The Coronalis extends from one temporal bone to the other, and joins the os frontis to the ossa parietalia;

The Sagittalis connects the ossa parietalia together; and,

The Lambdoidalis attaches the os occipitis to the ossa parietalia.

#### Fontanels.

In the Fætal Cranium, we observe two tangible apertures, formed by an imperfect coalescence or defective ossification of the bones, superiorly situated, denominated the Fontanels.

The Great or Auterior one, is an unossified space between the coronal, sagittal, and frontal sutures, known to the touch by its quadrangular shape.

The Small or Posterior Fontanel, is where the sagittal meets the lambdoidal suture, and is known to the touch by its triangular form. These detect the presentation and its situation.

### Vertex.

The Crown is that flattened part of the scalp, where the hair diverges in a radiated manner, which, in regular labor presents first, but in irregular, it comes last; hence the division Accoucheurs have adopted between,

Natural, and

Preternatural.

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By the first is meant, when the head precedes the body in delivery.

By the last, when it follows the other parts.

### Effects of Unossification.

At birth the bones of the cranium not being completely ossified, enable them to overlap each other. Thus by diminishing the size of the head, its extrusion is more readily facilitated.

In its passage it is subject to a considerable degree of pressure, which without the above arrangement, would often prove fatal to the child.

The largest part of the head naturally corresponds to the widest capacity of the pelvis, so that they maintain a relative proportion between each other.

By compression the head assumes a variety of shapes, which spontaneously disappear after birth.

Progress of the Head through the Pelvic Cavity.

A standard head will pass through a

standard pelvis, with more or less case, according to the part that presents, and where this passes the rest of the fœtus will easily follow; the mobility resulting from defective ossification, is highly advantageous in parturition.

The forehead presentation takes the most room. The face presentation will pass through the same as the vertex, but not with so much ease; for the weight assists in gravitation of the latter.

In the passage of the head through the cavity, by the standard position, the long diameter is applied to that of the superior aperture, with the vertex to the centre, and an ear towards the pubes; being aided by the form of the internal surface, the lower the gravitation the more diagonal is the position of the ears.

When the head has descended to the inferior extremity of the ischium, the posterior foutanel may be felt near it; and by the convergence at the inferior part of the cavity, the vertex is forced to emerge under the pubic arch, where it finds the least resistance; which, at the same time, guides the forehead

into the hollow of the sacrum. Thus the long diameter is applied to that of the inferior aperture.

If the head presents differently, there will be corresponding, but not the same changes; or if small, it will not be influenced by the cavity, but pass in any direction.

The changing position of the head through the cavity, is founded on the presumption that it presents naturally, and is guided by the form of the internal surface. No ill consequence would follow, in natural labor, from an erroneous opinion of it. If assistance be not wanting, no principle of conduct is required.

### Comparative Parturition.

By taking a view of the parturient process, we shall find it more tedious in women than in quadrupeds, owing, perhaps,

First, To the perpendicular position of the body, rendering a relative capacity of the pelvis indispensable, to prevent the impregnated uterus from descending; its contents

being more under the influence of gravitation than in brutes.

Second, The Pelvis not being in a line with the spine, the direction of any body that passes into and through it, must be changed; therefore, whilst the head is proceeding through the vagina, it takes a different course to that which brought it into the upper cavity.

Third, The Head of a Fœtus is larger in proportion to the magnitude of its body, than that of any other animal; probably from the greater quantity of cerebral organ it contains; which appears necessary, for the better exercising the sensorial functions; it being acknowledged, that the powers of rationality bear analogy to the size of brain possessed by every thinking being. Although these causes may

Augment the ardour; Increase the pain; and, Protract the process,

they do not lessen the safety of human par-

### CHAP, III.

### FEMALE ORGANS OF GENERATION.

The generative parts are divided into external and internal; the former are visible, the latter invisible.

#### External Parts.

First, The Mons Veneris is a prominence upon the ossa pubis, formed of the common integuments, and adipose substance, covered with nature's vesture; extending towards the groins and abdomen; defined by an imaginary line, drawn at right angles, with the superior part of the pudendum.

Second, Labia Pudendi, have also a similar covering anteriorly; they commence at the inferior part of the mous veneris, and unite

posteriorly at an obtuse angle, being the commencement of the perinœum.

Third, The Frænum Labiorum, bounds the os externum, restraining it as with a bridle, commences within the edge of the perinœum, and is sometimes torn in labor of a first child.

Fourth, Fossa Navicularis, is a short space or sinus, and affords room for the tip of the finger within the labia, formed by the frænum labiorum.

Fifth, Os Externum, or Vulva Magna, is the intermediate space between the labia, going inwards to the vagina.

Sixth, Perinæum, or that portion of common integuments from the fossa navicularis, to the anus, which is sometimes, though rarely, lacerated in labor.

Seventh, Clitoris, is a small oblong body, situated below the anterior angle of the pudendum; in shape very similar to the male penis, having a glans but no urethra. It is a very sensible part. Its prepuce is denominated the Præputium Clitoridis. An enlarged Clitoris has been erroneously called Hermaphrodite.

Eighth, Nymphæ, or Labia Minora, are two fleshy appendices, arising from the lower part of the clitoris, and are anterior to the labia magna, spreading outwards and downwards in direction of the orifice of the vagina; in shape similar to a myrtle leaf, formed by a doubling of the common integuments, and serve to regulate the stream of urine. Sometimes they are very much lengthened, and particularly so in infants; at other times only one is clongated; if not much so, it retains its form, but may be so increased as to be very irregular; in this case the superfluous parts may be removed by nymphotomy.

Ninth, Fossa Magna, on separating the nymphæ, we find a smooth hollow, or channel, which is so denominated, extending down from the clitoris about an inch; for directing the male organ in coitus, or the catheter into the bladder.

Tenth, Meatus, is in the centre of a small protrusion, situated between the nymphæ, at the termination of the fossa magua, just below the vaginal entrance, immediately under the pubic arch, near two fingers' breadth from

the glans clitoridis, communicating with the urinary passage.

Before we proceed farther it will be proper to make some observations on the diseases of these parts.

First, Patients often complain of great pain at the external parts, which may sometimes lead to a supposition of cancer, particularly when it is of a hot, burning, and darting kind; but this should be distinguished from mere inflammation.

Second, Sometimes there is great inconvenience from pruritus, or a sense of itching: This attacks women of different ages, but more especially those at an advanced period of life, about the cessation of the menses. If this be occasioned by insects, it may be readily relieved by ointments. If from herpetic eruptions, use saline purges, and cooling washes to the parts.

Irritation of the rectum will cause itching about the anns, and this will extend to the genitals, if it is owing to ascarides, use purges and aloetic injections. When itching is connected with pregnancy, it is likely to continue more or less, till delivery.

Third, Sometimes the labia pudendi are in a state of cohesion; this is likely to occur from previous abrasion, and may perhaps be divided, by simply pressing the part in different ways; or if not, by the bistoury, and proper dressing interposed.

Fourth, The labia pudendi are often the seat of tumor; depending on different causes, as hernia, ædema, and extravasation of blood.

With respect to the first, those who know the character of heruia, are aware that their frequent situation is in one of the labia.

If from orderna, it will be soft, and by pressure the effusion will be diffused in the contiguous parts; when large they are subject to friction in walking.

Extravasated blood; this may occur from accident or labor.

#### The Hymen.

This is,

First, A Semilunar Membrane, extending across the entrance to the vagina, at the lower part of the valva.

Second, Its concave, or open side, is

towards the meatus, so as to form a barrier between the external and internal organs.

Third, It is considered the test of virginity, being usually broken in the first act of coition, unless previously defaced, as is common from various casualties.

Fourth, It has been known to acquire a morbid thickness, so as mechanically to impede the flow of the menstrual deposit, and obstruct connubial intercourse.

Fifth, In case of imperforation, a small puncture will generally be sufficient.

### Internal Organs.

The Vagina,

First, Is a curved canal, being the passage from the os externum to the os internum.

Second, It connects the external with the internal organs.

Third, It is connected with the urethra and bladder at the anterior, and with the rectum at the posterior part; from this situation it is easy to comprehend how communications take place in these parts, either from injury done in labor, or from disease.

Fourth, It is more contracted in virgins than married women.

Fifth, The upper end is connected with the cervix uteri, and reflected over the mouth of the womb. By this mode of union the os uteri is suspended with protuberant lips in the vagina.

Sixth, It is contracted at the entrance, more capacious in the middle, and gets narrower again towards the uterine extremity. A knowledge of these differences is very useful, as circumstances may render it necessary to use a pessary; and this ought to pass the entrance of the vagina with some difficulty, then it will be conveniently tight towards the centre, to support the superincumbent pressure.

Os Tincæ,

Os Internum, and,

Os Uteri,

are synonymous terms, and promiscuously used by accoucheurs; they mean the entrance to the womb, resembling the mouth of a tench or a young puppy, prior to labor; but after dilatation has commenced for delivery, (that resemblance is lost, and) is more properly called Os Internum. It is the vicinity of this

part, which is generally attacked first by polypi or cancer, when those diseases occur.

Uterus, Matrix, or Womb. Is a hollow bug-like receptacle.

First, It is divided into cervix, corpus, fundus, and surfaces.

Second, Suspended at the superior termination of the vagina, between the bladder and rectum.

Third, Three inches from the os internum to the fundus, one inch from the anterior to the posterior part, two inches broad at the fundus, and one at the cervix.

Fourth, Composed of muscular fibres, which although not always cognizable to the eye, manifest their existence by uterine offices in parturition.

Fifth, It proportionally increases in thickness and size, as gestation advances, by the enlargement of its vessels and parietes.

Sixth, After menstruation, it becomes in a condition to admit, retain, and give nourishment to the ovum, serving as a nidus for the latter to evolve and grow in.

During part of the second, and whole of the third stage of labor, the commencement

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of the uterus, and termination of the vagina form one continuous canal; thus by dilatation the os internum in a manner becomes obliterated; and the os externum forms the mouth of the womb, till the expulsion of the fœtus.

### Uterine Appendages.

These are four:

First, The Fallopian Tubes, each has a fimbria or morsus diaboli, originating at the angles of the uterus; they are about two inches in length, and have canals passing through them, to preserve a communication between the uterine cavity and ovaria. Their office is to receive something from the ovaries after the stimulus of impregnation is given.

Second, The Ovaria are two spherical bodies, situated inferiorly to the fallopian tubes.

Third, The Round Ligaments; from each lateral angle of the uterus, a little before and below the fallopian tubes, these arise: they are composed of arteries, veins, lymphatics, nerves, and a fibrous structure; connected together by a cellular membrane. The

whole is much enlarged during pregnancy. They receive their outward covering from the peritonæum, and pass out of the pelvis through the rings of the external oblique abdominal muscles, to the groins. From which the reason appears, why those parts generally suffer in affections of the uterus.

Fourth, The Broad Ligaments, the duplicature of the peritonæum, in which the fallopian tubes and ovaria are involved, are so denominated.

#### CHAP. IV.

#### MENSTRUATION.

THE establishment of the pubic state is the acme of the female system; evident by many changes and appearances;

First, The natural vesture appearing on the mons veneris, which swells up;

Second, The uterns becomes dilated, and receives its adult form.

Third, The pelvis augmented, but seldom acquires its full size until women are eighteen years of age, therefore they ought not to marry before that period.

Fourth, The vagina enlarged;

Fifth, The breasts expanded, and their glandular substance unfolded;

Sixth, The mental powers strengthened; Seventh, The complexion improved;

Eighth, An expressive or animated countenance appears;

Ninth, A graceful attitude;

Tenth, An improved tone of voice is noticed; and,

Eleventh, New passions begin to operate with,

Twelfth, The regular appearance of the menses.

#### Observations on the Catamenia.

First, The discharge of a sanguineous fluid, which takes place every lunar month, from the genitals of a healthy woman, is termed the Menses;

Second, During the continuance of the menstrual deposit, the woman is said to be unwell;

Third, This flux, although red and similar in appearance to blood, has different properties, as it never coagulates;

Fourth, It continues periodically, (nuless interrupted by pregnancy, lactation, or disease) from puberty about thirty years through life;

Fifth, The source of the discharge is said to be the uterine arteries, effected by the secretory action of the uterus;

Sixth, The menstruating period varies in different climates; in this country it commences from fourteen to sixteen years of age, sooner or later;

Seventh, An opinion has been advanced, that the menstrual deposit possesses some malignant properties, but in this age and country, the discharge seems to be of the most inoffensive nature;

Eighth, Women are subject to peculiar complaints; the commencement of the menstruating age introduces an important change in the constitution, it ought therefore to be viewed as a critical season, claiming particular attention. Many diseases occur about that age; and others which had previously resisted the whole power of medicine, often abate or disappear on the regular establishment of that sccretion;

Ninth, Those who have the care of young girls, should prudently attend to their management at this critical age; late hours, excessive heat, long confinement in crowded places,

mental agitation, and irregularities of every kind ought to be prohibited in the strongest terms; more especially, as on the approach of the different periods, many have peculiar sensations, some are liable to pain in the inferior extremities, loins, breasts, head, &c.; and to hysterical or nervous affections, more or less acute; all of which are generally removed during menstruation, but return with considerable violence in numbers at every termination;

Tenth, It is well known that those are most healthy who have this discharge regular; and on the contrary, such as experience ill health, either want it altogether; have it sparingly, excessively, or at irregular intervals; hence it proves the source of many diseases incident to the sex.

Eleventh, In the beginning, a female will perhaps menstruate once, and then there may be an interval of three months, and so on; if the person be in health, this will gradually settle to the monthly periods;

Twelfth, The efficient cause of this discharge is not explained, but its final effects are,

I. The health of the constitution;

II. The salacity of the disposition; and,

III. The capability of the uterus for proceedation,

Thirteenth, Girls are not liable to conceive prior to the appearance of the catamenia, but subsequent to it, are most likely just before and directly after;

Fourteenth, Lactation and menstruation have a similar effect, in preserving the uterine functions; and pregnancy stops the secretion of the menstrual fluid in the uterus, or of pure milk in the breasts; although a lactiferous fluid may flow from the latter, it loses its grateful taste, and nutritive qualities; as two similar processes in the system, are rarely witnessed at the same time. If one child be at the breast, and another in utero, the first would be neglected by nature;

Fifteenth, There is a difference in the time required for the completion of each menstruating period. In some women the discharge returns precisely to a day, in others there may be different degrees of variation, without inconvenience. In many it is finished in a few hours; and we often observe it to

continue from one to eight or nine days; but the intermediate space of time, from three to six, is most usual;

Sixteenth, During the catamenial secretion, fresh fish and milk diet are apt to derange the stomach;

Seventeenth, 'The quantity secreted at each period is about four ounces, but it depends on

The constitution;

The manner of living; and,

The climate;

Eighteenth, On the latter rests its early or late appearance; as it is a general law that the warmer the country,

The earlier does the discharge take place; and,

The sooner it ceases.

Nineteenth, As much is generally secreted in a middle day, as in the first and last days together; though from circumstances it may vary with different women in the same climate, and with the same subject at successive periods;

Twentieth, The catamenial appearance in youth, governs its disappearance in age. As one year earlier or later in the former, is

equivalent to two or three in the latter: evident by,

One menstruating at fourteen; and,

Another at sixteen; the first continuing at regular periods till forty, and the last till forty-six;

Twenty-first, Nature sometimes anticipates and at other times protracts those appearances which marks this period, as

In some, strong hemorrhagic symptoms appear early without any morbid cause, induced by strength of constitution, vascular action, or fulness of vessels; and usually characterized by a full pulse, florid complexion, enlarged breasts, and a warm imagination, with such females it may commence by the thirteenth year, and in many instances before that time. This circumstance should only be regarded when it is attended with symptoms of ill health.

In others not arriving so early at puberty, the menses are later in their appearance; and in such cases no particular inconvenience attends their retardation;

Twenty-second, Whenever we attend females subsequent to the age of puberty, whatever their disease may be, the menses should form a part of our enquiry, it

Shews attention to the various symptoms;

Affords information; and,

Carries conviction of our acquaintance with the peculiarities of the female constitution;

Twenty-third, When patients apply for the removal of an obstruction of the menses, if they have,

I. Morning sickness in the erect attitude;

II. Pain and enlargement of the breasts;

III. A dark areola round the nipples; with,

IV. The general appearance of health, we may suspect the existence of pregnancy;

Twenty-fourth, Obstructed menses, with

I. Flushing in the face,

II. Slight cough,

III. Pain in the breast,

IV. Difficult respiration, and

V. Fever, indicate a hectic disposition; in which it is desirable to bleed in small quantities, give gentle aperients, antiphlogistics, and prescribe a vegetable diet, pure air, and a cautious attention to the non-naturals.

Twenty-fifth, When an alarming peri-

pneumony, or any other inflammatory affection supervenes in a constitution labouring under obstructed menses, the urgent symptoms must be attended to, without regarding the primary complaint.

#### Diseased Menstruation.

The disordered state of this secretion has two general divisions;

First, Amenorrhæa, or obstructed menses, and,

Second, Menorrhagia, or an immoderate flow thereof.

#### Amenorrhæa

Is a partial or total obstruction of the menstrual deposit, from other causes than pregnancy or old age. It is essential to health that the catamenia be regular

In quality,

In quantity, and

In its mouthly periods. If it be obstructed, nature essays to relieve in some other way; and

when her efforts fail, the consequence may be the accession of various other affections.— Amenorrhæa has its sub-divisions into the

Retention, or emansio mensium; that is, when the discharge does not appear so early as is usually expected; and,

Suppressio mensium, when, after its appearance, and continuing established for some time, it ceases from various causes; but it is generally owing

To an unguarded exposure to cold or moisture;

To improper food;

To impure air;

To want of exercise;

To mental agitation;

To want of vigour in the system;

To abstinence from sexual intercourse, &c. If the exciting cause of amenorrhoa be recent, the result may be

Acute obstruction, attended with a full quick pulse, hot dry skin, thirst, pain in the head, back, loins, and limbs, with an increased action of the vessels. The treatment here recommended, is

Early bleeding;

Yor. I.

Emetics;

Cathartics;

The warm bath; and,

Diaphoretics; whereby these symptoms are often relieved without the general health being disturbed. But if the excitement of this disease be a failure of the monthly evacuations for several periods, it is termed—

Chronic obstruction; which, although originally accompanied by an increase of action in the vascular system, is succeeded by debility; and the ill state of the patients health becomes evident.

First, By constitutional affections; as a weariness and debility; an inaptitude to exertion; loss of appetite; or an inclination for improper food; difficult respiration; hysterical symptoms; sense of weight over the eyes; and pain of the back, loins, &c.

Second, The disease is witnessed by an appearance of chlorotic symptoms, as a sallow skin, pale complexion, flabbiness, ædematous swelling of the feet and aukles towards the evening, and a turgid semblance around the eyes in the morning.

#### Treatment.

A successful mode, is the occasional exhibition of gentle emetics and aperients, to keep the primæ viæ clear from fæcal accumulations; with this intention invariably had in view, other remedies should be resorted to, as the combination of symptoms render their utility evident.

When the stomach and appetite are mended, small doses of steel may be given, or the chalybeate waters, with generous diet, pure air, and moderate exercise. Although the discharge in some cases be not readily produced, yet the general health having been improved, is a prelude to it; and afterwards, if it does not appear, various deobstruents are recommended, both medical and mechanical.

Of the former may be enumerated the fætid gums, calomel, hellebore, savine, &c., and

Of the latter, all kinds of exercise, as dancing, riding, swinging, &c.; or the stimulus of matrimony; the last may be more beneficial than the whole Materia Medica.

But where the above means fail, or matri-

mony cannot be adopted, the most effectual remedy is the judicious application of medical electricity, directed through the uterus and its appendages; which being persisted in for some little time, in many instances gives relief specifically. Electricity has been thought by some to occasion a determination of the fluids to the viscera concerned in the uterine secretion; and by others, to relieve the plethoric state of those parts, by abating the spasm of their vessels. But we may consider its modus operandi not so easily defined; although in solitary cases, it may be relied upon for the cure of amenorrhea; yet, on most occasions, medical remedies of the ferruginous class, which improve the general habit, whilst electricity acts locally, materially facilitate the operation of its salutary powers.

## Dysmenorrhæa.

Is when this flux is unusually small in quantity, and attended with severe pains in the back, loins, and region of the uterus, induced by an irritable state of the constitution

which is apparent in many females, producing an imperfect menstrual action, or as it would seem, a difficulty of the uterine vessels to become permeable.

This state requires the exertion of medical interference to alleviate; since women but rarely conceive who do not menstruate regularly;

The occasional use of the lancet;

Gentle laxatives;

The warm bath;

Diaphoretics; and,

Moderate exercise, tend greatly to promote the secretion; which, when correct, indicates a capability of impregnation.

#### Menorrhagia

Is the second division of diseased menstruation, and implies an immoderate flow of the menses. The distinctions are—

Menorrhagia rubra, or that which flows from women, neither with child nor in child birth.

Menorrhagia vitiorum, arises from some local disease.

Menorrhagia abortus, is that produced by abortion.

Menorrhagia alba, the fluor albus, whites, or leucorrhœa.

Menorrhagia nabothi, when there is a serous discharge from the vagina, liable to pregnant women. All which are considered under their respective heads.

## Observations on Copious Uterine Discharge.

First, Menorrhagia cannot occur before puberty; we find it is often an attendant on pregnancy; for the causes which frequently, either individually or connectedly, occasion flooding in this state; see first and second varieties of hemorrhage, wherein we may conjecture a principle to consist in the partial or total detachment of the placenta from the uterus; leaving the mouths of the vessels of the latter, which anastomosed with those of the former, perfectly open.

Second, It is necessary to discern between an approaching miscarriage and a common flooding; this may be readily done by inquiring if the discharge has or has not proceeded from any evident cause; if the former, it most commonly arises from fright, surprise, or accident, and does not flow gently and regularly, but bursts out on a sudden, and stops all at once; this is also attended with severe pain in the back, and region of the uterus; whereas in the latter no such symptoms occur.

Third, Profuse menstruation, implies either a preternatural return of the menstrual periods,

In frequency;

In duration; or,

In a superabundant quantity of the secretion. The treatment here will be fulfilled by keeping the bowels open with gentle aperients; as for example, a draught may be given two or three times a day, with a drachm of the magnesiæ sulphas, and an ounce and a half of the infusum rosæ in each, which may be succeeded by such medicaments as strengthen the system, likewise quietude, a recumbent posture, with attention to diet and regimen, are essentially necessary.

Fourth, The exciting cause of menorrhagia may be general plethora of the vascular system, or the opposite extreme, as uterine or constitutional debility, induced by frequent labors, abortions, or an excess in venery.

Fifth, A symptomatic discharge; whether from

An early miscarriage;

Polypous tumours; or

Induced by other local irritants, has been often injudiciously mistaken for catamenia; a conviction of this fact induces me to suggest the propriety of having recourse to examination per vaginam, when such are suspected.

Sixth, Married women are more subject to increased menstrual discharge than virgins; and it is rare for the latter to be affected with hemorrhage from the womb.

Seventh, Uterine hemorrhage being different from copious menstruation, is often dependent upon such causes as produce it from other vessels.

Eighth, The fluid evacuated in profuse discharges, is frequently of two kinds;

I. The menstrual secretion increased in quantity, and either preceded or succeeded by

II. A slight discharge of pure blood; the latter forming coagula in the vagina.

Ninth, When the discharge is considerable,

or frequently repeated, it produces the usual effects of the loss of blood; proving immediately, or remotely, the cause of some more serious malady; therefore, should be attended to on general principles, (vide third variety of hemorrhage;) when these fail, and the disease arises from a relaxed state of the uterine vessels, we may pass some mild astringent injection into the uterus every morning; (the decoctum granati with a proportionate quantity of zinci sulphas has procured permanent benefit;) but this is not to be done unless the case is urgent, and the Materia Medica has been fairly tried.

#### The Method.

We should instruct some intelligent female how to do it. The best way is to have an elastic bottle, with a proper pipe affixed, about six inches long, the size of a male catheter.

First, The patient is to be placed on her left side, as in labor.

Second, Pass the fore-finger of the left hand up the vagina to the mouth of the womb.

Third, Conduct the pipe along the finger, and allow it to enter about half an inch within the mouth; and,

Fourth, By gently pressing the clastic bottle, a portion of the injection will be applied to the internal surface of the uterus.

## Cessation of the Menses.

Prior to the discontinuance of the catamenia, the discharge generally becomes irregular; disappearing for two or three months, and returning afterwards for a time. This, like many other cases of their obstruction, is accompanied

With an increased size of the lower cavity; With sickness; and

With loathing of food. These effects are frequently mistaken for pregnancy; for many women have such a dislike to the idea of their having past the meridian, that they would rather persuade themselves of being with child, than suppose they are feeling any of the consequences of age. For the enlargement of the abdomen, which is frequent in

such cases. Exercise, chalybeates, laxatives, and the pilula galbani composita are proper.

The propagation of the species is confined to the vigorous part of life, most able to support it; but in advanced age, the quantity of blood and juices become less copious, so that according to the increase of years,

The waste gets greater than the repair; The uterus gets more compact; and

The vessels contract and gradually become impervious; whereby, the secretion, which formerly flowed easily through them, may diminish and shift its periods, called the dodging time. It may continue to the fortieth year, and with some much longer, when the accustomed evacuation finally ceasing terminates the period of child-bearing; which is an era in female existence nearly as critical as the age of puberty.

# Effects of the Constitutional Change.

The symptoms appearing about this time are either,

First, Those of fullness, in consequence of

the sudden stoppage of an usual evacuation.

Second, Frequent, long continued, or immoderate hemorrhages, in feeble relaxed habits; or,

Third, General affections from an alteration of the constitution. Many women become corpulent after the cessation of the menses. Some are afflicted with head-ache, hot skin, restlessness in the night, violent pain in the abdomen and loins. In others, the legs swell, the face grows bloated, or eruptions appear in different parts of the body. And numbers are troubled with bleeding piles. Many of these complaints may be relieved by spare living, venesection, aperient medicine, and suitable exercise.

Likewise all glandular and scirrhous complaints, a patient had been formerly troubled with, and which were protracted

By pregnancy;

By suckling; or

By monthly discharges; are likely to commence with violence at their cessation.

Their final disappearance is implied by either of the following terms—

The change of life; The turn of life; or,

The time of life. After which the constitutions of women neither require nor allow a continuance of the catamenia.

Many practitioners advance, that the menses may continue too late in life, or in old age; but this affirmation has never been verified within the range of my practice; such discharge ought rather to be accounted as symptomatic of other complaints.

When the female constitution, from any cause, requires a sanguineous eruption, it is often made from the uterine vessels, and if scrutinized by skilful analysis, will be found to differ widely from the menstrual deposit, particularly in that most remarkable of all properties, its incoagulability.

### Sterility.

Barrenness is, unhappily for the connubial felicity, by no means uncommon: the vexation and disappointment it produces in the matrimonial state, serve to imbitter every

moment of life; and, as such a condition more frequently depends upon irremediable organic defects, than any temporary idiosyncrasy of constitution, the prospect of professional advice being serviceable is extremely dreary; but

Relief is not always impossible when it arises from an imperfect action of the generative system; as

Fluor albus;

Universal debility;

Exhaustion of the uterine economy;

Frequent and promiscuous venereal intercourse, as prostitutes rarely conceive;

Corpulency, inducing an inactivity of the ovaria;

Amenorrhœa;

Menorrhagia, &c. comprise the more prominent features in the catalogue of exciting causes, which impede the exercise of the uterine functions.

In some females, the generative system is susceptible of its particular stimulus or powers being acted upon by the semen of one person, and not by that of another. This is evident in women who bear children to one husband and not to another.

But though the cause frequently exists in the female, it is often a melancholy consequence of the battered constitution of the debauchée, who assumes the character of a husband when he can no longer support that of a rake.

Amongst the organic defects preventing impregnation, and for which the imperfection of our art affords no cure, are,

First, A deficiency, or imperfection of the ovaria;

Second, An impervious state of the tubi fallopiani; or,

Third, An unprolific disposition of the uterus.

In sterility,

First, The breasts are usually flat;

Second, The external appendages indistinct in their formation and growth; and,

Third, The sexual desires inconsiderable.

## CHAP. V.

#### CONCEPTION.

This part of the science is more particularly connected with practice, than what has been hitherto considered; as the object of midwifery is pregnancy and its consequences; and, as the subject of conception supposes a previous knowledge of the structure and economy of the generative organs, it is right we should be acquainfed with the

Anatomy,
Physiology, and
Pathology of those parts.

## Theory of Generation.

First, If there be no imperfection in the genitals, the time of puberty is ascertained by the secretion of fluid;

Seminal in the male, and Menstrual in the female.

Second, Two individuals, male and female of the above description, must be

Mutually employed, and

Influenced with the cestrum, for the propagation of a third.

Third, The primordium of life, secreted by the male testes, emitted by their ejaculatory ducts through the male organ into that of the female, and propelled with sufficient velocity to reach the part to which nature has ordained it a specific stimulus; its vivifying principle, either in the form of a fluid or subtle aura, by harmony or consent of parts, with the concurring action of each, becomes conveyed to one or more ova, originally placed in the ovaria, which it pervades and impregnates with its wonderful principle; but how, or in what manner, the most celebrated physiologists have been unable satisfactorily to explain. The inconsistencies in their opinion serve to assure us, that the phenomena of impregnation are but little understood. I cannot do better than decline offering any

unphilosophical remarks of my own, and refer you to the writings of

Haller,

De Grauf,

Harvey, and others, who have given this intricate subject a most elaborate investigation. Philosophers, however, have generally admitted,

Fourth, That the principle of the male being somewhat analogous in its nature to that of the female, unites therewith; and this inference arises from the resemblance between a child or an animal, to its respective father and mother. Thus we know by observation, that

I. The descendants of black and white parents possess such a cast of features as indicate that change in the rete-muscosum, which gets them the name of mulatto.

II. A horse and an ass, are found to engender a mule, and

III. Two animals, male and female, approaching to each other in their nature and habit, propagate by coitu, an offspring similar to both.

Fifth, The uterus and impregnated ovum are endowed with nervous sensibility;

The former for the reception of the latter, and

The latter for the commencement and perpetuity of the motion of its fluids.

Sixth, It is connected by the decidua, a delicate membrane, which

Gradually becomes vascular;

Adheres to the womb; and

Forms a lining to its cavity.

Seventh, In the uterus, the ovum and its contents, the fœtus, may evolve, and be nourished nine calendar months, or forty weeks.

Eighth, It has a distinct circulatory system of its own, by means of the sanguiferous fluid it receives from the mother, through the medium of its appendages.

# Signs of Conception.

The uterus, being the seat of sympathy, during its gravid state, becomes the agent of affection; and is productive of changes in the general system, as in

The state of the blood;
The functions of the body;

The habits, temper, and inclinations of the person. We are thence enabled to form a correct estimate of the phenomena about to follow impregnation; and 'experience shews that the presence of many of the fifteen particulars enumerated below, point out the existence of that state.

### Symptoms.

First, Amenorrhæa; this soon engages the attention of women, but without other circumstances it is very uncertain. It may be observed, that it is possible for some women to have menstruable appearance once or twice at the beginning of pregnancy; but the intervals being irregular and the quantity small, it might be termed a discharge, because the vessels of the body of the uterus supplying the fætus, the discharge can only come from those about the neck.

Second, Loss of appetite; this is a very equivocal symptom, and so also is the

Third, Emaciation, which is the consequence of the former.

Fourth, Dyspepsia,

Fifth, Salivation;

Sixth, Anomalous symptoms, peculiar to some women, comprehending cough, erratic pain, thirst, hot skin, quick pulse, an irritable temper, longing for unnatural food, tooth-ach, &c.

Seventh, Tumefaction of the breasts, as they begin to unfold themselves, to receive the secretion which is to be set up in them, shewing us the design of nature; therefore, this symptom is more to be trusted to.

Eighth, Darkened areola round the nipples, from the colour of the rete-mucosum being increased at those parts. This is a mark of pregnancy much thought on.

Ninth, Morning sickness in the erect attitude; if this attends suppressed menses in women who had regularly menstruated before, it adds much to the probability of pregnancy.

The sickness sometimes continues throughout the day; and, although very troublesome, seldom admits of alleviation by any other means than gently clearing the prime viaThe life of the feetus in utero is evidenced principally by the presence of the Seventh, Eighth, and Ninth numbers; and its death indicated by their sudden disappearance.

Abortion may be caused by the following four symptoms, either connectedly or individually.

Tenth, Costiveness.

Eleventh, Diarrhœa.

Twelfth, Tenesmus; and

Thirteenth, Strangury. Especially, as they are sometimes produced by sympathy, or pressure in the early months of pregnancy, whilst the uterus is in the pelvic cavity.

Fourteenth, The mechanical pressure of the uterus upon the upper part of the rectum, colon, and vesica urinaria, in the advanced stage of utero gestation, is likewise every now and then productive of serious inconvenience.

Fifteenth, Melancholic affection. The uterus is so important an organ in the animal economy, that there is scarcely a part of the body but what is under its influence; even the functions of the brain are not exempt.

A lady was sent to a private madhouse at Hoxton, with mental derangement, which continued till the time of quickening; afterwards she returned home perfectly well. Thus symptoms of irritability attend the early months, and those of pressure the latter; these, though troublesome, are not dangerous; pregnancy is deemed a state of health, being protected from a variety of complaints, fewer women die during that period than any other.

Those who are troubled most with symptoms of gestation before quickening, are more likely to go their full time; such effects are supposed to arise from the firm and uniform attachment of the fætal appendages to the uterine surface.

### Attention proper to the Pregnant State.

The inconveniences of pregnancy shew the utility of observing rules respecting—Diet—Air—Exercise—Evacuation—Mental agitation; and—Dress.

Diet; the patient should take such nourishment as is most agreeable to her, but being exposed to much uneasiness from the distention of the abdomen, ought to choose that kind of food which produces the least

Air, if pure, is at all times conducive to health; therefore, a patient should often walk out a short distance, or ride in an open carriage, on a smooth road.

Exercise; when this is taken, it should be of a gentle kind; for by much exertion, as dancing, over fatigue, &c., the ovum may become detached.

Evacuation; it is so very necessary for a pregnant woman to avoid a costive habit, that she should never pass a day without a passage through her bowels.

Mental agitation, frights, vexatious concerns, or even occurrences which only produce slight fear, will often occasion an ill effect; therefore, improper places, as theatres, or other situations where a woman may be exposed to flurry or irritation, should be avoided.

Dress; the principal thing necessary to notice in this particular, is guarding patients against being laced tight, as it prevents the rising of the uterus; premature dilation of the neck and mouth of the womb may be the consequence, and of course abortion, losing more or less blood according to the advance of pregnancy. The shoes should not have small heels, but broad ones, that they may tread firm.

#### Quickening.

By this term is meant the first sensation felt by the mother, denoting the existence of a fœtus in utero; and by women, is erroneously supposed to be a criterion, that the ovum then receives the principle of life; but it is stated, that vivification takes place with, and is the immediate effect of coition. The motion is first experienced between the twelfth and eighteenth week of pregnancy, but more frequently about the sixteenth week; it seems to be induced

By the augmentation of the uterus; and

By its rising from the cavity of the pelvis into that of the abdomen; its early or late perception, is in some measure dependant upon the size of the former, the more capacious that is, the longer will the womb be ere it ascends into the latter.

The symptoms are usually fainting or Vol. I.

some hysterical affection; and in a few instances a trifling discharge from the female organs of a sanguiferous fluid.

#### CONTENTS OF THE GRAVID UTERUS

THESE are comprised under the term Ogum. The components are,

First, The fœtus;

Second, The fuuis umbilicalis;

Third, The placenta;

Fourth, The membranæ, amnion, chorion, and decidua; which come with the ovum into the uterus at the time of impregnation, continue to increase in proportion as the fœtus advances towards maturity, and are thrown off by uterine contraction after the expulsion of the child, when they are denominated the secundines, with those are to be named;

Fifth, The Liquor amnii, a gelatinous fluid, secreted by the first mentioned membrane.

### Embryo, Fætus, and Child.

These terms are by no means synonymous, though they bear an allusion to the same individual thing.

The first signifies a conception, till all parts of the new being are evolved, which includes a period of about three months, dating from the primary result of coitus;

The second means an embryo, from the formation of all its feetal parts till delivery; and

The third denotes a fœtus after the change has taken place at birth, which characterizes the supercedation of fœtal life, or what may be considered vegetable existence to animal vitality, through the medium of

Respiration and Pulmonary circulation.

#### Increase of the Gravid Uterus.

It gradually increases in bulk from the commencement of pregnancy.

At the end of the third month the ovum is

the size of a goose's egg, and one fourth of the cervix uteri at its superior part, is distended equally with the fundus.

At the termination of the fourth month, or after quickening, it may be felt through the integuments of the abdomen.

At the end of the fifth it rises midway, between the pubes and the navel, with half of the cervix distended.

At the close of the sixth it reaches the umbilious.

At the end of the seventh, half way between the umbilicus and scrobiculus cordis-

By the eighth, or beginning of the ninth month, it extends almost to the ensiform cartilage of the sternum; (at least in first pregnancies, when the tightness of the abdominal integuments prevents it from hanging so much forward as it afterward does,) this is its utmost height.

Thence in the course of the last month, it begins to subside.

Expulsion of the Uterine Contents.

The different periods at which the contents

of the uterus are expelled have been divided into arrangements similar (to the subject of the Embryo, Fætus, and Child) and take the names of — Miscarriage—Abortion—Premature Delivery, and Labor.

The first means the expulsion of the embryo entire, or till the third month;

The second denotes that of the feetus, till the termination of the sixth month;

The third comprehends from the beginning of the seventh month till the full period; (or when the uterus is distended sufficiently to admit of a manual operation;) and

The fourth is when the term of utero-gestation is completed. So that women may part with the fœtus before the fortieth week.

Children of premature delivery, some live and some not;

Those after the seventh month, are called vital;

Those before, non-vital.

#### The Placenta.

It is supposed to be formed by the chorion membrane; it is a flat circular substance re-

sembling a cake, hence its name. Which, together with the membranes of the ovum, are called the after-birth. It is about a span in diameter, and an inch in thickness; it becomes gradually thinner from the centre to the circumference. It consists of two parts,

Maternal and

Fætal. The former is chiefly cellular, the latter more vascular. There is no communication between these parts by continuation of canal.

The placenta prepares and brings the arterial blood of the parent to the fœtus, answering two purposes, that of

Respiration and

Nourishment.

The external surface is that attached to the uterus, convex, lobulated, and has the appearance of fissures or cracks; that in case the body should be exercised suddenly, it could by this means suit itself to the motion of the uterus without being detached. The internal surface is concave and smooth.

In case of more than one feetus, each has its membranes and placenta.

#### Funis Umbilicalis.

The umbilical cord is an essential part of the ovum, connecting the fætus to the involucra, and is generally attached nearly to the centre, called. The root of the placenta, formed by the union of the umbilical vessels, composed of two arteries to convey the blood from the fœtus to its appendages; and one vein which transmits it from thence to the former; they are generally twisted round each other; we frequently find the arteries form coils at various distances apart; the vessels are imbeded in gluten and covered with the amnion, to prevent

Compression, or

The funis from forming an acute angle; which, without this wise arrangement, would frequently occur, and thereby impede the circulation.

The cord perforates the abdomen of the fœtus, to maintain a communication between it and the placenta. Its length is from four hands breadth to eight or nine.

#### Membranes.

They differ in their number and characters at different periods of pregnancy, but as they are most perfect towards the latter end, I shall consider them as they appear in the last months. There are three; two of which form the involucrum, one within the other, and these with the placenta constitute the ovum; containing

The Fœtus,

The Funis umbilicalis, and

The Liquor amnii.

First, The chorion is vascular, receives its vessels from the uterus, and comprehends three fourths of the outside of the bag, attached to the edge of the placenta, which completes the other quarter;

Second, The amnion is transparent, adhering to the internal surface of the chorion and placenta, reflected over the funis, and terminates at the umbilicus;

Third, The membrana dicidua is of a delicate texture, yielded entirely by, and forms a lining to the uterus, it connects the foctal appendages thereto, but forms no part of the ovum or covering of the fætus; after delivery it falls off, and is generally discharged in fragments with the uterine cleansing;

The safety of fœtal life during natural labor, depends on that of the two former membranes; unless they are ruptured prematurely, an animated fœtus at the commencement is sure to be a live child at the conclusion of it.

#### Liquor Amnii.

Is that fluid in the ovum, most pure in the early months. It being contained in the amnion, has received the name of liquor amnii during pregnancy, but in labor it is termed the waters. In the former months the quantity is larger in proportion to the size of the fœtus, than afterwards.

Frequently we find the body of a new-born child nearly covered with a substance resembling white paint, precipitated from the liquor annii; which, with yellow soap, spouge, and warm water, will easily cleanse off. But the

operation should be expeditiously effected, and an additional bason be provided with clean warm water, to wash the soap well off immediately afterwards. If those substances are not effectually removed at their first washing, are liable to cause cutaneous cruptions.

#### Use of the Liquor Amnii.

The uses of this fluid are

First, To promote the distention of the womb during gestation.

Second, To defend the fœtus from the mechanical efforts of the uterus in the early months of pregnancy; its quantity being then considerably greater in proportion to the size of the former.

Third, To defend the uterus from the fætus in the latter months; as the plunges of the child are in proportion to its strength.

Fourth, To preserve the fœtus alive, allowing it room for action and circulation.

Fifth, To prevent any morbid adhesion of parts.

Sixth, It serves as an easy support for the fœtus in utero.

Seventh, Its lubricating properties facilitate the parturient process.

Eighth, It forces down the membranes in dilating the os uteri, vagina, and os externum; and,

Ninth, It protects the fætus from the contractile powers of the uterus.

#### CHAP. VI.

#### UTERO-GESTATION.

HAVING described

The various parts concerned

The catamenial age, effects, and tendance; The mode of conception, and theory of generation;

The period and manner of quickening;

The contents and increase of the gravid uterus; with

The different terminations of their premature expulsion; I shall now offer some remarks on the process and term of uterogestation, which imply,

First, The existence of a fectus in the cavity of the uterus; and

Second, The space of time from conception to parturition.

#### Situation of Fætus in Utero.

It is calculated to take up as little room as possible, and forms an oval figure;

The chin rests upon the breast, and is in contact with the knees;

The thighs are drawn up to the belly;

The legs are reflected backwards;

The feet are closed, and close to the breech;

The arms cross each other round the legs; or the hands may be disposed to the face, with the arms folded up;

The position is between flexion and extension;

The head is lowermost, with its diameters corresponding with those of the brim of the pelvis.

#### Commencement of Utero-Gestation.

The period at which pregnancy takes place is difficult to prove, the disappearance of the menses is the only criterion whereby we are enabled to form an estimate;

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Women are always liable to conceive between the period of their being unwell, and that of expecting to be so.

We ought to understand their count terms, as long and short reckoning;

Long is by the solar months,

Short by the lunar; yet some reckon from coitus, when it will be noticed they expect on a certain day, and not about such a time. The natural period is forty weeks, but it is usual to take the interim and calculate.

Forty-two weeks from the last menstruation, or

Twenty-four from quickening; they may be delivered sooner, but cannot go longer.

#### FŒTAL NOURISHMENT.

The placenta is composed of two series of vesssels; consisting of arteries and veins, interwoven with each other.

The first series are continued from the funis, which ramify on its internal surface;

the arteries run over the veins, and sinking into its substance, divide into small branches.

The Second series, which proceeding from the uterus, ramify in a similar manner to those of the funis, as appears when a placenta is injected from the vessels of the cord, and from those of the parent. The veins and arteries accompany each other in their ramification as in other parts.

The two vascular systems, maternal and feetal, are distinct; the circulation of the latter is unconnected with the former; excepting that the material principle by which the blood of the feetus is renewed, must be derived from the parent.

The blood which undergoes a preparatory change in its passage through the uterus, is conducted by the maternal arteries to the after-birth, where it is deposited in cells, from which its nutritious part becomes absorbed by the fætal placenta, and conveyed by the umbilical vein to the fætus; when the blood has circulated through the latter, it is transmitted by the arteries of the funis to the former; from the cells of which it is taken up by an absorbent power, inherent in

the maternal veins. So that in the uterus, two distinct circulations are going on;

The one between the mother, and maternal part of the placenta;

The other between the fœtus, and fœtal placenta.

The after-birth performs the office of a gland, in secreting nutritious parts from the blood, perhaps in a way similar to the secretion of milk; the veins are said to fulfil the office of absorbents, as no lymphatics have been detected; and therefore the only communication between the parent and the fœtus must be by the sanguiferous system.

#### CIRCULATION.

THERE are some peculiarities about the foctal heart; a communication is preserved

First, Between its right and left auricles, through the septum auricularum, by an opening called foramen ovale; and

Second, Between the pulmonary artery and aorta, by the ductus arteriosus, so that

the blood can pass from the right side of the heart to the aorta, without going through the left. Perhaps we may form a better comprehension of it in the fætal economy, by refreshing our memory with a transient view of

#### Adult Circulation.

This is a vital action, by which the blood is returned into the right auricle of the heart, through the descending and ascending venæ cavæ;

It passes to the right ventricle,
Is propelled to the pulmonary artery,
To circulate through, and undergo a change
in the lungs;

Is brought back by the pulmonary veins,
To the left auricle of the heart;
Thence to the left ventricle, and
Passes through the aorta to the arteries,
which send it to every part of the body.

#### Fætal Circulation.

This is not quite so simple as the former. The blood returns by the veins from all parts

of the body to the venæ cavæ; from thence to the right auricle of the heart, where it divides into two portions, taking different directions.

The first or smaller portion passes to the left auricle of the heart, through the foramen ovale, to the left ventricle, and thence to the aorta.

The Second or larger portion passes to the right ventricle of the heart, and thence to the pulmonary artery; where it subdivides into two courses.

The larger one goes through the ductus arteriosus to the aorta.

The smaller passes to the lungs to be circulated in that viscus, and keep it pervious; it returns by the pulmonary veins, through the left auricle of the heart, as in the adult to the left ventricle, and passes onwards with the rest through the aorta to the arteries; which transmit it to all parts of the body.

At birth, the lungs being called into action, expand their vessels, and the blood finding a free passage through them, the foramen ovale and ductus arteriosus close.

#### Umbilical Vessels.

The vein arises from the placenta, and runs through the funis, enters the abdominal parietes of the fœtus, hence it proceeds to the liver, where it bifurcates;

One division entering that viscus.

The other runs by the ductus venosus directly to the vena cava inferior, which it perforates immediately before that vessel enters the right auricle of the heart.

The arteries are two branches which arise from the iliaca interna, run along the bladder laterally to the umbilicus, pass through the funis in different and unconnected trunks, and terminate in the placenta.

These vessels become impervious when respiration is established.

# MANUAL EXAMINATION PER VAGINAM.

THE object of this operation is to investigate something relative to

Pregnancy, or

Disease. It is so essential, and one on which so much depends, that I shall give it a prefatory consideration.

There is scarcely any period of pregnancy wherein the medical man is not at times consulted, on matters which interest the state of the patient; and his opinion is often demanded, when neither ocular demonstration, nor a mature investigation of symptoms, are sufficient to warrant his hazarding a direct assertion. It is by an examination per vaginam alone, that he finds himself competent to satisfy the patient's mind, whether she be really pregnant, or only deceived by such anomalous symptoms, as correspond with those attendant upon utero-gestation.

These suggestions allude to probabilities, and are meant to enforce the propriety of every Accoucheur knowing how to proceed when an examination is necessary, through every period of pregnancy. To ascertain this state is not easy, till after the fourth mouth, but we may form some judgment of it,

First, By observing the degree of the womb's ascent in the abdomen, and

### EXAMINATION PER VAGINAM, 129

Second, By noting the shortening of its neck.

From the utility and mode of a vaginal examination, much address is required, aided by

A becoming manner,

An agreeable language, and

A most prepossessing demonstration of tenderness; more especially, as by the mode of proceeding are our professional abilities appreciated. This operation gives no pain, and consequently removes the dread which many women entertain of it. The material points connected with an examination are,

First, The position of a patient for it; Second, The mode; Third, The times proper for, and Fourth, The information to be gained by it.

#### The Position.

The situation of a patient during examination may be either standing, lying, or as circumstances of the case require: the general method is for the woman to be lying,

On her left side,

Close to the right edge, or foot of the bed, and

With her knees drawn up towards the abdomen.

#### The Mode.

The method of performing an examination: First, It is right for me here to premise, that a nurse or some married female should be present, both for the comfort of the woman and satisfaction of the Accoucheur, whose reputation ought never to be endangered.

Second, On every occasion, if a patient be lying on a bed, custom inculcates the habit of placing a few clothes over her, as a commendable mode of delicacy.

Third, The Accoucheur is to supply himself with a napkin, and a little fresh hog's lard, which is preferable to pomatum, to anoint the index finger of his right hand. Anointing the finger serves two purposes,

Prevents the action of morbid matter on the skin, and

Facilitates its introduction along the course

#### EXAMINATION PER VAGINAM, 131

of the vagina, which may be dry, if labor has not been fully established.

Fourth, He introduces it under the clothes till the end ascends to the patient's extremities, and keeping equally in contact with both, guides it immediately to the vagina, it should never be carried to the fore-part of the vulva, and from that back to the former.

Fifth, The operator is to separate the woman's thighs, and carry his right elbow a little forwards between them, to place the fore-arm in a straight line with the finger, and bring the inside of the latter in contact to the internal vaginal surface, which gets an inch higher by means of the vacancy between it and the thumb.

Sixth, When the finger is turned half round, its point will touch the os tincæ, or entrance of the womb, situated between that part of the finger and the pubes. Sometimes it may be more convenient to examine with the left hand, then turning the finger will be unnecessary.

This is the way of completing an examination previous to labor, or during its first stage; after which the os internum being more dilated, and descended into the vagina, is found with ease.

The fulfilment of these rules, which I have endeavoured to simplify as much as they will admit of, constitutes a vaginal examination, and what is always meant by that appellation. It is true, a little dexterity is required, but as practice alone makes perfect, their observance cannot fail in time to render the obstetric practitioner competent.

#### The Times.

The times proper for resorting to an examination; without adverting to those periods in utero-gestation, when that operation may be practised with a view of giving an opinion relative to a female being pregnant or not, I merely wish to have it understood;

First, That when a practitioner is called to a patient supposed to be in travail, whether her symptoms denote the case urgent or otherwise, it is necessary for him to ascertain her state, that he may know if he can safely leave her for a time, or whether his presence be immediately required; should labor have

### **EXAMINATION PER VAGINAM. 133**

actually commenced, his intention is to learn the progress it has made, as well as the relative situation of the fœtus; he waits for one of these contractile efforts of the uterus, which forces down its contents, and thereby dilates the os internum momentarily; (this is a time when he is most likely to be satisfied in his enquiries,) during which he passes his finger up the vagina, which in the obstetric language is denominated

Taking a pain, or Trying a pain.

Second, When the membranes rupture, and the waters are discharging, another and most critical moment presents itself, for the medical attendant to examine; because should the presentation be such as to require turning the fœtus, with the greater facility can he pass his hand through the parts already lubricated and dilated by that gelatinous fluid the liquor amnii.

### The Information.

By an examination during the presence of pain, we ascertain

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#### Two Particulars.

First, The accession of labor, by the effect of the pains on the os uteri; and Second, The progress labor has made By dilatation of the os internum; By descent of the presentation; and By protrusion of the membranes with the waters;

In the absence of pain, we may distinguish

#### Six Particulars.

First, The actual existence of any deformity in the pelvic cavity.

Second, Disease of the generative parts.

Third, Position of the fœtus in utero.

Fourth, The degree to which the os uteri

collapses:

Fifth, The relaxation of the membranes;

Sixth, The recession of the presentation. But our judgment of the labor is to be guided rather by the dilatation of the os uteri during, than by relaxation thereof, in the absence of pain.

### EXAMINATION PER VAGINAM. 135

### Utility of Prompt Attention.

Having adopted measures respecting vaginal examination, I shall now represent the propriety of resorting to it early; especially, as occasionally in public practice, a practitioner is liable to have several patients (and probably at some distance from each other) complaining at the same time; and a knowledge of their situation tends as much to the benefit of the patient, as the convenience of the former; therefore, it is necessary that every Accoucheur, especially those in the country, should learn the state of a patient early, at their first visit,

By vaginal examination, or

By ocular observation.

First, To induce a compliance with the former, it will be proper to introduce the subject by previously stating some leading questions; as for example, enquire

If regular pains be felt, and where situated;
If micturition be frequent, and motions
regular;

If shiverings have occurred;

If a nausea or vomiting be troublesome; and If a shew or other discharge be perceived.

The answer to these interrogations gives us information, and in a measure introduces the subject of examination.

Second, By ocular observation; if the

patient be up, in noticing

I. Her actions,

II. Her manner of walking; and

III If a subsidence of the abdomen has taken place.

### Impropriety of Delay.

It is usual to examine at the commencement of a pain, yet it may be done with equal propriety in its absence; but women unacquainted with our motive, or its utility, frequently form objections; and many have a cessation of pains on the arrival of the Accoucheur; or a young patient in travail of her first child, from timidity, and the presence of the practitioner, will often smother true labor throes, to evade that operation; and if the latter does not wait, the former will be delivered alone; when, if a membrane should

### EXAMINATION PER VAGINAM. 137

be over the child's face, it may be unable to respire, and lost for want of assistance; such cases sometimes occur. On the other hand, if we wait without learning the real state of the patient, and the labor eventually proves spurious,

Our time will be lost,

Our consequence depreciated, and probably Some other patient neglected. To guard against such casualties, we should make it a rule, when sent for, to propose an examination

Soon after our arrival;

----- forming the above questions, or
------ hearing any statement of a real
or supposed labor; and at the same time.
Represent the propriety of ascertaining,

First, The condition of the parts;

Second, How the fœtus lies previous to the attack of strong pains, (that in case of a wrong position, an early opportunity may be afforded to place it right;) and

Third, Represent the propriety of ascertaining the commencement of the process, as its favourable termination may depend much on our knowledge thereof. The patient may

be influenced by those or other suitable suggestions, and perceiving the utility of an early attention, will be the more anxious for an acquaintance with the identity of her state, and, of course, not only agreeable to, but desirous for, an examination in the absence of pain.

#### Elucidation of Vaginal Examination.

To illustrate this operation, the parts requiring our attention therein should be described.

Having already explained the manner of searching for deformity or disease, though few are afflicted with either, but

Every woman has an os tincæ, and

Many, at a certain period, have an uterine tumor, which are the particulars here referred to; and a clear knowledge of these forms the Key to Midwisery.

#### Os Tinca during Pregnancy.

The os tincæ, in the state of utero-gestation,

## EXAMINATION PER VAGINAM. 139

is closed and turned backwards. In different women its form varies; in some it is thick and protuberant; in others thin and tubulated, with various other modifications, all which are soon understood by habit.

### Os Uteri at the End of Pregnancy.

In some the projecting edges or lips are small, in others large; in many smoothed over or pointed, sometimes obliterated; in numbers, who have had children, the lips are a little open at the extremity, but quite close above; in some wide enough to pass the end of the finger quite through it, during two or three weeks; in others, a few days before, and often not till parturition commences:

### Os Internum during Labor.

In the early part of the process, the mouth of the womb may be rigid, or yielding; its edges may be thin or thick, and both these states may exist with hardness or softness of fibre. In some cases of slow labor, the dilatation of the os uteri for many hours is scarcely discernible, resembling a hard ring, perfectly level with the rest of the uterus; it is generally directed towards the hollow of the sacrum; in many its extension is gradual, but sooner effected in some than in others; it takes a longer space of time in cross presentations than in natural ones.

The different states of the os uteri, both favourable and unfavourable, vary greatly; but it is remarkable how rapidly an unpropitious one sometimes alters to the most promising; as in many, though the pains have lasted a long while, but little change is evident; whilst in others, considerable alteration frequently occurs in a short time. Dilatation is slower

At the commencement of the process than afterwards, and

With prior labors than subsequent ones.

#### Uterine Tumor.

In many instances, with a capacious pelvis,

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the cervix uteri descends into its cavity before dilatation commences; when the anterior inferior part of which, with the fætus inclosed, is denominated the uterine tumor, whereon the presentation rests; in some patients the tumor may be formed before any symptom of labor occurs; which is broad at the beginning thereof, but becomes narrower as the os uteri dilates, until it is completely effaced; the part of the fætus naked, or covered with the membranes, occupies the vagina, and manifests the state of the labor. Whilst

The fibres of the uterus contract,

Those of the orificium uteri dilate, and
The uterine tumor diminishes.

# Period of Dilatation.

The part of labor wherein the dilatation of the os internum commences, often depends on the brim of the pelvis; when the latter is narrow the former takes place at the beginning of the process; but if there be sufficient room to admit the head into the cavity, invested by the cervix uteri, its opening may not be perceptible till the first stage is effected.

### Form of Dilatation.

The os uteri, in the beginning of labor, is oval, or of an elliptick figure; its diameters agreeing with those of the brim of the pelvis.

#### Mode of Dilatation.

The process of nature in opening the os internum is two fold.

The first is effected by the contraction of the longitudinal fibres of the uterus, gradually widening the os uteri till it receives the membranes containing the waters, which resemble a cone.

The second is subdivided into two powers, the continued contraction of the longitudinal fibres of the uterus, and the cone, formed as above, mechanically pressing against the circumference of the first part of the opening.

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The cone and dilatation, equally enlarge in size at every pain, until the latter receives the head of the fœtus, when it is complete.

If the membranes rupture early, the whole process of dilatation of the mouth of the womb must be effected by the contraction of its longitudinal fibres alone.

### Consequent on Dilatation.

The head being received into the os internum, the transverse fibres of the uterus act in conjunction with the longitudinal ones.

First, In dilating the lower part of the vagina and os externum; and

Second, In expelling the uterine contents:

### A Caution respecting Syphilis.

Having gone through the tangible subject, it will be necessary to give a hint respecting syphilis, and at the same time adopting a method to guard against such infection.

We should never allow the smallest abrasion of the skin to be exposed about the hand, which goes in contact with the parts of a patient at any examination, either during labor, or at other times.

Four midwives, who were in practice in a populous neighbourhood near each other, died of the disease within the space of five years; the complaint was communicated by inoculation in the hand.

### CHAP. VII.

#### DISEASES OF PREGNANCY.

 $\Upsilon_{ ext{HESE}}$  in general depend on three causes:

Plethora,

Irritability, and

Mechanical pressure. Although the excitement of particular complaints may be readily ascertained, still relief cannot be always obtained for them; sickness and vomiting will not sometimes admit of mitigation, yet go off spontaneously; so also pressure on the neck of the bladder cannot be removed till the uterus rises up higher.

Pregnant women are liable to be incommoded by causes, which to others would be harmless; hence attention to the rules of living are expedient; especially as the effects of pregnancy vary both in degree and combina-

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tion of symptoms, according to idiosyncracy of constitution, or acquired susceptibility of different parts.

First, The gravid uterus exerts an influence over other organs, through the medium of sympathy, either by direct or secondary means, as is evident by irritation being transmitted first to the stomach and then to the head, &c

Second, The uterus may occasion changes in any of the other viscera, as by the pressure of its bulk, it is found to act mechanically.

Third, Pregnancy produces effects in the general system, marked often by a degree of fever, and always an altered state of the blood.

Fourth, A salutary change is effected in the constitution of some women during pregnancy, productive of benefit; so that many enjoy a better state of health in that period than at any other.

Fifth, There is a diversity, not only in the effects of pregnancy, but also at the period in which they manifest themselves; in some commencing very early, relief is often obtained after quickening; others experiencing very little inconvenience till near the conclusion of

utero-gestation, when, by the enlargement of the uterus, the functions of the abdominal viscera are deranged.

Sixth, Many troublesome effects are excited by pregnancy, but if these proceed from the state of the uterus, it follows, that when they exist in a moderate degree, neither admit nor require any attempts to cure; for a removal of them implies a stoppage of the action of gestation, which is their cause; though sometimes, by treating them as circumstances indicate, temporary relief may be afforded.

Seventh, When unfavourable symptoms proceed to a great extent, and excite painful affections, tending to disturb the general health, they are termed diseases of pregnancy; the following are such as frequently occur:

#### Febrile State.

With some women, soon after impregnation, the pulse becomes quick, the skin hot, attended with thirst and loss of appetite; as pregnancy advances, these symptoms get more severe, with loathing of food, restlessness

in the night, &c.; and, although they may seem relieved in the morning, the nights are spent alike uncomfortable; this state is accompanied with an appearance of emaciation and sharpness of features.

The principal management is that of keeping the bowels open; though with many but little relief is obtained till after delivery.

### Vomiting.

This is a frequent effect of pregnancy; and occasionally begins immediately after conception; with some it takes place only in the morning at first getting up; hence it is called the morning sickness: it usually continues to the period of quickening, and with many during the whole of gestation; others are free from it till the conclusion of the latter, when the distention of the womb may affect the stomach, the mouth is filled with water previous to vomiting, and it is phlegm generally thrown up; but if it he severe or repeated, bilious fluid is ejected. When sickness is very distressing, we should know whether it is symptomatic or arises from disease;

If the stomach is foul, an emetic of ipecacuanha will be advantageous; but where women are prone to miscarry, it should not be given, especially at those periods when it is most likely to occur; if the patient be of a plethoric habit, active means are to be used, as evacuation by the primæ viæ, or vascular system; yet with those of a lax fibre we may find palliatives more useful, as gentle aperients and the haustus salinus effervescens.

Sometimes the stomach is so very irritable, that nothing we can give will relieve it; here every thing we offer should be small in quantity, whether as medicine or food; with respect to the last, those things should be given which contain the most nourishment in the least bulk, such as

Beef-tea,

Calves'-feet jelly, or yolk of an egg, with a dessert spoonful of brandy, and such like articles; with respect to the mode of exhibiting these, a patient should take two spoonsful every half hour.

Changing the air has been particularly beneficial, in cases of vomiting.

#### Costiveness.

This complaint is a general attendant on the pregnant state; it may be owing to torpor of the intestines, or mechanical pressure of the uterus on the rectum. Costiveness tends to increase some of the

Stomachic ailments, piles, and

Other troublesome symptoms; therefore many women are in the habit of procuring two or three evacuations every day, or at least morning and evening; to effect which they begin by taking gentle laxatives, and making moderate efforts to obtain a motion daily, at stated periods; whereby the bowels get into that habit; the best medicines are a smooth emulsion of oleum ricini with the yolk of an egg, or small doses of the sulphate of magnesia.

Sometimes indurated fæces are accumulated in the rectum and colon; this accumulation is often accompanied with tenesmus, and may be readily distinguished by examination per vaginam, for the rectum is found filled with a feculent mass; here clysters are efficacious,

they soften and assist in removing the contents of the intestine most distended; afterwards the above internal laxatives become useful.

If a costive state be neglected near the end of pregnancy, it may increase the pains, and in a measure protract the delivery.

#### Diarrhæa.

The bowels may be very open, or costiveness and diarrhæa, alternate with each other; it is rarely necessary to check the latter: when very troublesome, with bilious fætid stools, small doses of the sulphas magnesiæ may be given to carry off the irritating matter; and afterwards half a grain or a grain of ipecacuanha two or three times a day, and the surface kept warm with flannel.

#### Œdema.

With some during pregnancy, the feet and legs become ædematous; and sometimes the thighs and labia pudendi participate in the swelling, this may proceed from pressure on the iliac arteries and veins, and a temporary

mechanical obstruction of the larger trunks of the lymphatic absorbents in the pelvis, as they pass on from the inferior extremities, through that cavity to the receptaculum chyli-Keeping the bowels regularly open, and gentle pressure on the part, give the most relief.

This complaint is seldom injurious, sometimes very uneasy sensations are removed by its accession; when the pressure is taken off by delivery, the absorbents act with more success, and in twenty-four hours the ædema will be removed. The difference between ædema and anasarca is, that

In the former the patient is well, while
In the latter the constitution is impaired.

#### Varicose Veins.

This state of the veins frequently occurs during the period of utero-gestation; it is not dangerous, but often attended with pain: the cause is the pressure of the uterus on their trunks, impeding the return of blood to the heart, which having to ascend against its own volume, independent of this superadditional obstruction, is compelled to take

a passive retrograde course, and by being pressed upon the valves, situated at certain distances in the vessels, insinuates itself between their semi-lunar surfaces, thereby producing such enlargements as not unfrequently burst, and cause considerable hemorrhage; should this occur during parturition, the mode of treatment consists in the application of compress and bandage, and at the same time enjoining a recumbent posture.

#### Hemorrhoids.

The piles are a turgid state of the hemorrhoidal vessels, situated within the rectum, and about the verge of the anus, particularly inimical to pregnant women, especially near the period of quickening.

#### The Cause.

Piles are produced by various means.

First, Occasional irritation of the patient during the pregnant state.

Second, The use of aloctic purgatives, and

Third, Mechanical pressure of the uterus in the pelvic cavity, upon the hemorrhoidal veins, impeding the return of the blood, and thereby forming tumors of various sizes and shapes.

#### Distinction.

Hemorrhoids frequently become strangulated by the action of the sphineter muscle, and burst, which affords transient relief these are termed bleeding piles; those having no discharge are called blind piles.

#### Treatment.

When the turgescence is great, and the pain considerable, leeches may be applied to the verge of the anus; after which, cold saturnine lotions, and astringent ointments, such as three parts of Goulard's cerate, and one of powdered galls; likewise, the bowels should be kept perfectly free, by taking an electuary, composed of proportionate quantities of sulphur precipitatum, manna, oleum amygdalæ, and confectio sennæ.

If these means fail;

If the cause depends on the pressure of the uterus; and

If the tumors are particularly distressing; or when fomentations with emollient poultices at night, afford no relief, they are to be supported by the T bandage till after delivery, when the cause will be removed, and the effects gradually cease.

# Cramp.

Spasm of the lower extremities is often an attendant on pregnancy; this generally comes on suddenly: it arises from pressure of the ischiatic nerve at two periods;

The one is by the uterus, a little previous to quickening;

The other, where cramp seems most distressing, is, by the fætal head, shortly before delivery.

Sometimes cramp is removed by a change of posture, and at others but little relief can be afforded till the exciting cause be removed; but as it is imperatively required for the medical attendant to be doing something to

amuse the patient, he may order the affected limb to be rubbed occasionally with a liniment of the gently stimulating kind, and apply friction with flannel or a warm hand.

# Spasm of the Stomach.

An attack of this complaint during the pregnant state may be attributed

To irregularity of diet,

To the application of cold,

To wet feet, or

To the influence of the mind; the disease requires prompt attention, not only because the pain is severe, but because it may excite abortion. The following aperient mixture generally gives speedy relief:

R. Fol: Sennæ, semiuuciam,

Tamarind: pulp: drachm. sex,

Magnes: Sulphas: drachm: decem,

Aq: Pur: unc: octo,

Coque ad uncias sex, et cola, post colatur,

Aq: Menth: pip: uncias duas,

Sp: Ammon: Arom: drachm: tres.

M. f. Mistur: capiat cochl: duo larg: omni horâ, donec respond: alvus. But in

case of a subsequent attack, a dose of laudanum with æther is generally successful.

Spasms of the stomach, attended with head-ache, taking place towards the end of pregnancy, or about the commencement of parturition, indicate approaching convulsions; therefore the woman should be speedily bled, and the above aperient mixture resorted to; those remedies are more especially necessary, if the pain be accompanied with-heat of skin -full pulse-and ruddy complexion.

### Prolansus and Procidentia Uteri.

By the former is meant, the descent of the uterus into the vagina, which is sometimes mistaken for polypus.

By the latter is understood, the protrusion of that viscus through the aperture of the pudendum; they are known from an inversion of the uterus, the os uteri being readily distinguished. It is impossible for the uterus to come without the external parts and not bring the vagina with it; therefore, the outside of this tumor is the internal part of the latter.

The uterus must be returned to its natural Vor. I.

situation, by the operator's hand, previously immersed in cold water, the pressure is to be made chiefly towards the perinæum, and a little dexterity in most cases will suffice; but the position facilitates the operation: the woman should rest on her knecs and elbows, and after the replacement, a recumbent posture for several days should be observed.

### Protrusion of the Vagina.

This is the inversion of its internal surface, so as to project downwards through the os externum, in a similar manner to the prolapsus uteri; from which it is known by the os tincæ being discoverable above the tumor; it is not painful to the touch, and generally subsides when the patient lies down: the treatment differs in nothing from that of the prolapsus uteri; these diseased affections of the parts are usually induced by relaxation, consequent upon

Fluor albus; Inordinate indulgence in vencry; Frequent pregnancies; Early fatigue after labor, before the parts of generation have recovered their tone; or, A capacious pelvis.

### Prolapsus Ani.

This is a protrusion of the rectum through the anus, so that its villous coat becomes everted, and forms a vermilion-coloured tumor; frequently arising

From relaxation of the sphincter ani;

- --- weakness of the surrounding parts;
- --- costiveness;
- - diarrhæa;
- --- tenesmus; or,
- hard labour. After being returned with the hand, previously immersed in cold water, it may be supported by the T bandage, applied over a compress of folded rag, occasionally wetted with the decoctum querci.

#### Retrovertio Uteri.

A retroversion of the uterus, is when the fundus uteri becomes displaced, and turned

backwards and downwards upon its cervix; so as to rest upon the rectum, and incline the os uteri towards the pubes; this disease is liable to occur

First, From the reflection of the peritonæum, between the vagina and rectum.

Second, From the fulness of the bladder, or Third, From torpor of the latter, so that the woman retains her urine longer, and expels it with difficulty; consequently, it is attended with much pain.

The bladder rising up towards the regioumbilicalis, elevates the uterus, and draws it from its place by means of the peritonaum, which is firmly attached to each of these viscera.

#### To ascertain the Disease,

First, We should be acquainted with the situation of the uterus, and its connexion with the bladder and rectum.

Second, By examination, per vaginam, will be perceived a large tumor, occupying the inferior part of the pelvic cavity, pressing the vagina towards the pubes.

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Third, By examination, per anum, the same tumor may be felt, thrusting the rectum to the hollow of the sacrum; and

Fourth, By making both inspections at the same time, we may readily discover the tumor, confined between the vagina and rectum.

Retroversio uteri is only liable from the twelfth to the eighteenth week of pregnancy. When the uterus is but little enlarged, and after it attains a certain size, cannot be displaced.

In the former case the weight of the fundus is wanting to produce it; and

In the latter, because by a few months enlargement, during pregnancy, the uterus has arisen from the cavity of the pelvis into that of the abdomen, where the anterior curved surface of the lumber vertebra, and superior projection of the sacrum, give it durable support. The danger in retrovertio uteri is,

As the degree of fever, and As the state of the bladder.

#### The Treatment.

In the treatment, as the pressure which the rectum, vesica urinaria, and urethra sustain, must necessarily impede the due performance of their office, we are to assist by enemas or aperient medicines, and the catheter; likewise by bleeding if indicated, ere a replacement of the tumor be attempted.

In many instances, as pregnancy advances, and the patient guarding against a full bladder, the uterus spontaneously regains its natural position by the gradual exertion of its own powers, or by suiting itself to the change which the parts progressively undergo; so that, if consulted in time to pass the catheter, we are seldom solicitous about the event. Yet the practitioner is sometimes required to exercise his dexterity and skill; therefore, he attempts to return the fundus uteri to the position it has lost,

First, By placing the woman on her knees and elbows, and the thighs at right angles with the body. Second, By passing two fingers of one hand up the rectum; and

Third, By conveying several fingers of the other hand into the vagina; with a view of elevating the tumor beyond the projection of the sacrum; but the length of the latter, and that of the os coccygis, when compared with the shortness of the operator's fingers, frequently render this operation difficult and unmanageable.

### Menorrhagia Alba.

Fluor albus, leucorrhea, or whites, is often nothing more than an increase of that glandular moisture which lubricates the parts; in others it is a mucous or sanious secretion from the vagina and uterus, or vagina alone. It indiscriminately attacks women, not only in utero-gestation, but when that state does not exist.

The whites cannot be strictly classified as a disease of pregnancy; however as it appears to be often induced by the latter, I thought fit to give it a place.

The discharge, though sometimes mucous

and profuse, is now and then of a glary translucid aspect, of a viscid tenacious consistence, and small in quantity; so much does it vary in degree and kind, from a simple increase of the natural mucus of the parts, to that of a purulent or acrid nature; that the first is not esteemed a disease, unless excessive. It is the most frequent complaint to which women are liable; and may be a symptom of some local disease, or the consequence of constitutional debility; when profuse it occasions very great weakness. In many it indicates disease in the uterus, or neighbouring parts, particularly

When copious in quantity;

--- offensive in smell; or

—— acrimonious in quality; more especially about the time of the cessation of the menses, producing a train of troublesome affections, as

Febrile excitations;

Depraved appetite;

Disturbed functions of the chylopoetic viscera;

Irritability of the general system, with Painful heaviness about the loins.

Sometimes the whites may appear similar to gleet; in such cases there is difficulty in discriminating between the two diseases; but

The latter is contagious, The former not.

#### Treatment.

Cleansing the prime viæ by aperients and gentle emetics, should be the first steps taken in the treatment of this disease; after which balsamics and tonics will be useful, producing a sort of metastasis of the fluids from the inferior parts, and by exciting the powers of the constitution to more vigorous action. But

Pure air, Moderate exercise, Generous diet, and

Regular living, are most beneficial. Should the complaint continue after an amendment of the constitution, various restringent injections may be used. The most effectual is the decoctum granati, with a proportionate quantity of sulphas aluminis and zinci sulphas, several

times a day. A cure is sometimes effected by suckling, after the failure of various remedies.

### Affections of the Bladder.

Painful sensations of the bladder are frequent. They arise in common with the pathological phenomena of the parts during utero-gestation, from pressure of the gravid uterus.

In some females, incessant micturition, or a desire to pass the urine, which comes away in small quantities, affording transient relief.

In others, inflammatory symptoms appear, characterized by their plethoric indication, a full quick pulse, head-ach, insomnolescence, &c.; and,

In many, a suppression of urine.

#### Treatment.

The most judicious plan of treatment consists in depleting the vascular system by means of the lancet; at the same time evacuating the intestinal canal by the use of emollient enemas; enjoining also an absti-

nence from spirits, wine, and animal food, and adopting a vegetable and farinaceous diet.

Frequently the bladder is rendered unusually irritable; especially about its neck; and the urethra participates in this state—
Here relief may be given by taking small doses of the emulsion of castor oil, and liberally of mucilaginous fluids; which, although not reaching the bladder as mucilage, at least afford a bland addition to the blood, from which the urine is secreted.

If a suppression of urine is manifestly the principle, which is very liable about the third month, from a disposition in the uterus to gravitate, and rest on the neck of the bladder; help may sometimes be afforded by the patient's pressing the womb up with a finger in the vagina, before an effort is made to pass the urine; when this, or fomenting the pubic region does not succeed, the water must be drawn off.

When it is required to pass the catheter, it is of consequence to be able to do it readily; and this is by no means difficult. It is to be done under the bed-clothes; the

practitioner has no ocular perception of parts, but must rely on his anatomical knowledge of the generative organs, to pass it up the meatus with adroitness. For which purpose a clear description of those parts has been given. It is proper to have another female in the room as an assistant. The operation may be effected by the patient sitting on the side of the bed and inclining back; or when she is lying on the left side, at the right edge of the bed: in either of these ways the catheter may be easily passed, but it requires some attention to the relative situation of the parts. A convenient method is,

First, To place the patient on her back, with her shoulders raised.

Second, The knees to be elevated, and separated from each other.

Third, The operator to stand on the right side of the bed, with his back towards the face of the woman.

Fourth, To pass the index finger of the left hand between the labia magna, and feel for the clitoris, which serves for a leading mark.

Fifth, Then to carry it downward between

the nymphæ; the point of the instrument being moved lightly about an inch along the fossa after the finger, meets with a small elevation, immediately under the pubic arch, and just above the vaginal orifice; in the centre of this, is a circular entrance, where it will readily slip into the urethra.

Sixth, The finger resting under this prominence, the catheter is to be guided upon it by the right hand, and,

Seventh, Gently passed up the urethra, (which is about an inch in length,) into the bladder. A bason is to be placed between the thighs, to receive the urine. By this mode,

I. The bones, forming the symphysis pubis, prevent the catheter sliding upwards, and

II. The operator's finger arrests its insinuation into the vagina.

### To Operate during Parturition.

When the water requires to be evacuated during the process of labor, if the head of the foctus has entered the pelvic cavity, the urc-

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thra being pressed close to the symphysis pubis.

First, The flat catheter should be used, introducing it parallel thereto; and at the same time,

Second, The head of the fœtus raised a

little.

### Retention of Urine.

This is a complaint very different from suppression of urine: it means a want of the ordinary secretion of that fluid; and may take place

From ascites,

--- inflammation,

--- spasmodic affection, and,

--- various other excitements. The symptoms point out the cause, and steps must be taken accordingly. Generally in these cases

There is pain in the loins, The constitution becomes irritated, and Attended with febrile indications.

### Urinary Calculi.

Calculous concretions in the kidney or bladder; are not of unfrequent occurrence during the period of utero-gestation, and at the time of labor, but cannot be considered a disease of pregnancy, though where they do exist, are more likely to be noticed during that state.

A knowledge of the anatomy of the urinary organs suffices to satisfy us, that women are not so liable to stone in the bladder as men; therefore, are less the subjects of lithotomy, from the shortness and dilatability of the urethra, affording facility to the escape of a calculus, during the act of passing urine;

Concretions in the kidney may prevail as much with females as the other sex; though it is sometimes difficult to distinguish nephritic complaints from pain in the loins produced by pressure of the uterus; either case generally admits of bleeding and aperients; occasionally, however, there may be one or more stones actually in the bladder during labor, and when such circumstance occurs, parturi-

tion will not only be extremely painful, but dangerous.

If a stone be in the neck of the bladder, between the symphysis pubis and head of the fœtus, when the latter is in the cavity of the pelvis; the pressure is liable to produce such inflammation as often terminates in gangrene, and sloughing; whereby, an opening may be formed into the vagina, through which the urine will ever after dribble and excoriate the parts; unless an elastic gum catheter be always worn.

Sometimes sloughing takes place in the fore part of the bladder; the urine then becomes extravasated into the abdomen, and proves speedily fatal.

A knowledge of these direful effects, suggests the propriety of adopting the most judicious management on the part of the attendant; it consists in elevating the calculus from the neck of the bladder, and supporting it with a sponge, similar to the mode recommended for protecting the funis; the success of the operation depends on the descent of the head into the cavity of the pelvis, which

possibly may be large, and too low when the disease is discovered.

In all cases where the urine does not pass freely and at proper intervals, especially if there be tenderness of the parts, it should be drawn off to prevent distention.

#### Hernia Vesicalis.

The various species of hernia are troublesome, but much more so, when they occur during the state of pregnancy; especially, that in which a portion of the bladder passes down into the vagina.

The following description is given of this complaint, because women are exposed to danger by our mistaking it.

If the protruded part be perceived during the progress of labor, it may be taken for the membranes, therefore it should always be reduced at the commencement of that process. Hernia vesicalis is ascertained

By its protrusion when the bladder is full; and

By the recession of it when the urine is

voided; which latter should often be encouraged during labor.

Sometimes relief may be given to the hernia, by the introduction of a globe pessary, or sponge, and paying attention to the regular evacuation of urine, but permanent relief is seldom effected.

### Affections of the Head.

I have before observed that sometimes the brain sympathizes with the uterus, but to defue how, or through what medium that sympathy is conveyed, would be exceedingly difficult.

There is however another affection of the cerebral organs, occurring during pregnancy, which admits of a more facile explanation; it appears to be nothing more or less, than a distention of the vessels of the head, disturbing the functions of the sensorium; arising from an obstruction of its distribution to other parts, especially to the inferior extremities and lower portion of the trunk, by the compression of the uterus; and is characterized

by all the distinguishing marks of a plethoric state of the vascular system; as,

Violent head-ache;

Giddiness;

Throbbing of the temporal arteries;

A sense of weight over the eyes;

Somnolescence, and other vertiginous symptoms.

#### Treatment.

The treatment in these instances, consists in a judicious depletory plan; by

The frequent administration of saline cathartics, and

The occasional use of the lancet; the quantity of blood to be detracted must be determined by,

First, The severity of the symptoms; Second, The habit of the patient; and Third, The effect of the evacuations.

But generally, moderate evacuations will prevent, whilst

Copious depletion is requisite, to cure the more distressing effects of a fulness of the vessels in the head.

# Affections of the Chest.

Affections are frequently noticed in the chest, attended with pain, difficult respiration, and a train of disturbances, of which the thoracic viscera are susceptible; they arise from causes not dissimilar to the former, and require a similarity in the mode of treatment.

#### Small Pox.

This disease, whether it be the distinct or confluent sort, if it occur during pregnancy, is highly dangerous, and generally proves fatal; likewise other cruptive, remittent, or contagious fevers, are equally hazardous. During these cases women have a mistaken opinion, thinking if they fall in labor, it would be a relief to them; but it is a wrong idea, for they generally sink in a few days after delivery.

## Spurious Pains.

Women near the end of utero-gestation,

are liable to periodical pains, but when they are felt chiefly in the fore part of the abdomen, the cause may be colic, induced by flatulence, costiveness, or suppression of urine. They sometimes resemble more clearly those of parturition, in being attended with an involuntary effort on the part of the abdominal muscles, to press down; so as to make the woman suppose she is about to be delivered. The accoucheur, however, readily distinguishes such pains as are spurious, from those which attend on the actual accession of labor;

By their situation;

- their shifting;
- their duration;
  - their irregularity; and
- the symptoms with which they are accompanied. It is true, on most occasions, these distinctions are conclusive; though cases occur that are not so easily defined, and mistaking them may be productive of serious events. Therefore, the following rules are adopted as a more decided mode of ascertainment:

First, If the uterine tumor be not in the pelvic cavity;

Second, If during the continuance of the pain there is no tension of, or pressure upon, the os uteri;

Third, If there is no dilatation of the latter; and

Fourth, If, when the pains subside, there is no corresponding relaxation of the cs internum, they are false; although periodical in their return, and in the region of the uterus; the latter is acted upon by neighbouring parts, from some of the succeeding causes, which, if encouraged, its contractile efforts would follow, and premature labor be the consequence.

The intervention of false pains is referable to one or other of the following excitements. And as the knowledge of a complaint usually suggests its relief, I have prefixed remedies where either of them prevail.

# Exciting Causes, and Treatment.

If the pains arise from bodily fatigue and spasmodic action of the abdominal muscles— Enjoin rest in a recumbent posture.

If from agitation of mind—Quictude from mental exertion.

If from a feverish disposition—Gentle aperients and saline medicines.

If from costiveness—Gentle aperients and enemas.

If from diarrhæa--A dose of rhubarb, succeeded by opiates.

If from abuse of spirituous liquor and free living—Small doses of calomel, followed by stomachic bitters, and regular nourishment.

If from the motion of the fætus in utero--Nothing more than a recumbent posture.

If from plethora --- Aperients, and occasional small bleedings.

### ABORTION.

An expulsion of the uterine contents, at any period, from conception till the conclusion of the sixth month, is so denominated; but if an evacuation thereof takes place before the fætal parts of the embryo are evolved, which is usually by the latter end of the third month, it is generally termed a miscarriage.

Abortion is the most usual complaint of pregnancy, and consists of two stages:

First, Detachment of the placenta from the uterus, causing hemorrhage by the rupture of vessels; and

Second, Expulsion of the contents of that viscus, producing pain by the contraction of the muscular fibres. As this complaint merits considerable attention, it is delineated in various points of view.

#### Observations.

First, The ovum may be thrown off at different periods, and in different degrees of perfection; it most usually happens about the third month.

Second, In a very early miscarriage, the discharge is more in proportion than the pain, which sometimes may not be perceived: it is rarely of the expulsive kind; but still paroxysms may occur, till the embryo is expelled.

Third, When the fætal appendages are formed, the process is accompanied with more regular throes, often resembling those of labor; some are attended with much pain, others but little.

Fourth, The discharge may be constant, until the fœtus is expelled and the involucra thrown off.

Fifth, Many have a profuse hemorrhage, and others only a small shew. Likewise, there is a diversity in the manner of the process.

Sixth, No abortion can take place without some appearance; but every discharge does not terminate therein.

Seventh, In some instances the whole ovum is expelled at once.

Eighth, While in others, the membranes give way, the liquor amnii escapes, and the fœtus is protruded; but the symptoms still continue, till the rest of the ovum comes away, which may be from one, to three, or four days.

Ninth, A rupture of the membranes, and discharge of the liquor annii,

Arrest the action of gestation; and Excite uterine contraction.

Tenth, The time which intervenes betwixt the application of any cause of abortion, and the production of the effect, is various.

Eleventh, In some cases the child dies, Vol. I. Q

and the ovum remains for a considerable time before the expulsive process commences; but, during the intervening period, we may have the following indications of the vital action being destroyed.

The absence of the morning sickness;
The cessation of the motion of the fœtus;
The subsidence of the swelling of the breasts.

The change in colour of the areolic circle round the nipples;

Frequent micturition;

Pains in the back, abdomen, and inguinal region;

Seuse of weight in that of the uterus, and

Hemorrhage from the latter. This last is a diagnostic, proving that the ovum is wholly, or in part separated from it.

Twelfth, In some circumstances, a discharge takes place, and continues several days; but, if there be no indication of the death of the fœtus, we may have hopes of mitigating the disease.

Thirteenth, The process of expulsion is one, which is under the direction of nature. This is to be regarded as an axiom; and our mode of treatment founded thereon.

# Appearance of Miscarriages.

A practitioner should be acquainted with the appearance of such substances as may be expelled from women during pregnancy; for should any be discharged, it might be asked if a miscarriage has taken place; but, we are not to suppose every thing that comes away solid, an embryo.

First, There may be perceived only coa-

Second, An ovum may come enveloped in a coagulum of blood, which, without an investigation, would escape our notice;

Third, A substance may pass, similar to a coagulum, having a cavity lined with a membrane, though no fœtus within; for this may, perhaps, have been sometime dead, and dissolved in its own water; therefore, it is considered a miscarriage;

Fourth, Sometimes there will be a substance lined with a membrane, and shewing the fætus; in this case there can be no doubt;

Fifth, When an expulsion of the uterine contents takes place after the commencement

of the fourth month, the fectus will be so distinct that it cannot be mistaken.

#### Cause.

The further women are removed from the primitive state to that of society, the more subject they are to the following circumstances, which tend to induce abortion:

Weakness:

Sympathy;

Habit after the first time;

Constipation;

Increased circulation;

Mental or corporcal irritation;

Violent exertion;

Spirituous liquor;

Accidental injury;

Too great a quantity of liquor amuii;

Premature discharge of the latter;

Tenesmus, strangury or diarrhæa;

An acute disease, this last is generally a certain inducement.

Occasionally, the intercourse of the sexes before quickening; (which proves, that the uterus remaining in the cavity of the pelvis is more exposed to irritation, than after its ascent into that of the abdomen;) or

Any circumstance capable of stopping the process of gestation, or exciting the action of the uterine fibres.

# Treatment preventive of Abortion.

To prevent an abortion, if not the first time, avoid the cause which formerly produced it. If from external injuries or plethora;

Bleed as the pulse indicates;

Administer gentle aperients;

Compose the mind;

Keep the woman in a recumbent posture, with scrupulous exactness, because if upright, the ovum rests on the os uteri.

Cold applications should be used to the region of the uterus.

A hurried circulation should be guarded against; and

The room kept dark and cool. If the symptoms indicating the approach of the disease, arise from debility, the patient should be put upon a generous diet, and the use of

such tonics as best answer the purpose of restoring general health.

# Treatment during Abortion.

When hemorrhage is considerable and the pain trifling, the rules are,

First, To evacuate the liquor amnii; in order to excite the action of the uterus, which brings its surface and contents in contact with each other.

Second, To compose the mind, and remove all circumstances that render the patient desponding;

Third, To place her in a recumbent posture;

Fourth, To apply a cold lotion, with clothes to the back and vulva; and in other respects,

To treat the case on general principles. The danger is greater in the latter, than the former months; but if from the regularity of pains, though feeble, and more especially when they have been preceded by symptoms indicating the death of the fœtus, we are to

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wait the event; an occurrence of this kind may perhaps be thought dangerous, but is seldom the case if no acute disease be present.

As miscarriages are liable to occur to the same female successively, she is from these circumstances led to suppose that such will always be her calamity. With a view of relieving ideas of this nature, the most advisable means should be adopted; such as a change of air, and gentle exercise, suggesting at the same time the propriety of absence from her husband; by these means the uterus will be enabled to regain its proper tone, and at her return, the first impregnation may probably prove successful.

### CHAP. VIII.

### PARTURITION.

The constitutional changes, and local inconveniences, attendant upon the pregnant state, having been considered, it remains for me to describe the correspoding symptoms and varieties of the parturient operation in sundry points of view; in order to convey a distinct idea of the powers of nature to effect the same. This occupies several heads; on it the principle theory of obstetrication rests.

Observations on the Cause of Labor.

Various opinions have been given, respecting the theory, or exciting cause productive of those series of phenomena, characterizing parturition, and terminating in the birth of a new being; and, why it commences at the end of the ninth month, or the fortieth week. It has been imagined that

- I. The fœtus in utero is actually concerned in producing its own liberation by instinct.
- II. The distention of the uterine fibres tending to this effect; or
- III. The pressure of the child upon the developed cervix and os uteri;

Avicenna, an Arabian physician, without giving any exciting cause, has exclaimed, that at the appointed time, labor comes on by the command of God.

By many it was presumed, there was some analogy, between the ripeness and falling of fruit, and the perfection and birth of a child; besides these, a variety of other ideas are advanced respecting the cause of labor; but to form a correct opinion, on any physiological point, it is proper, when experiments fail, to have recourse to analogical reasoning, and draw a conclusion from the result of our own experience; in this way must we be regulated, in giving a rational definition of the process.

# Predisposing causes of Labor.

Common observation proves to us, that prior to the parturient act, some precursory changes take place in the body, which appear sometimes for several days, at other times only a few hours, before pains are felt.

First, A subsidence of the fundus uteri, as can be seen by the altered figure of the abdomen, this is a favourable symptom, indicating

- I. That the parts are well formed; and
- II. That they are properly disposed for labor;

Second, The descent of the cervix uteri into the pelvic cavity, forming the uterine tumor;

Third, There being a mucous discharge from the vagina;

Fourth, The external generative parts becoming enlarged, relaxed, and protruded;

Fifth, A frequent inclination to pass the urine, from pressure and irritation of parts; with

Sixth, A visible alteration of the breasts,

whereby we discern them fit for secretory offices.

# Immediate cause of Labor.

To form an idea of this, I shall observe First, That the uterine fibres are possessed of

The power of distention; and The power of contraction;

Second, That the distention of the uterus, is induced by a stimulus received at conception to accommodate its contents till the termination of gestation; when that principle is superceded by a more active one.

Third, The principle of contraction, which is the cause of labor, to expell the uterine contents. But how or why, this expulsatory action does take place, we are at a loss to explain, without we previously suppose, that either the augmented bulk of the fœtus, or some inexplicable excitement, irritates that organ to a peculiar action, for the ejectment of its contents, in a way, similar to the influence which a vomit excites on the stomach. This being premised, we comprehend with

more facility, how the birth of a child is effected.

- 1. By the numerous contractile efforts of the uterus, through the medium of an infinity of longitudinal and circular fibres, which are assisted in their operation.
- II. By that musculo-tendinous partition, between the abdominal and thoracic viscera; and,

III. By the muscles of the lower cavity.

# Time Occupied in Labor.

The former subject points out the cause of labor. This shews the time employed therein which means the interval from a change made on the os uteri, till the expulsion of the contents of the uterus.

First, One delivery may be so sudden, that neither the practitioner, nurse, or any other person can be ready to assist, or even prepare the bed, for the reception of the patient; another with equal or more safety may last many days.

Second, The duration of the process varies not only in different women, but in the same person at successive periods.

Third, Although some, without any mechanical cause, are slow or expeditious, others are tedious in one, and quick in another.

Fourth, The attack of pain, after being repeated two or three times, is often suspended, and keeps off a long period; then the process may recommence and proceed rapidly.

Fifth, The greater number of women do not complain more than twelve hours, many a much shorter time, some not more than one hour, and we frequently find patients delivered in a few minutes, with scarcely any previous sensation.

Sixth, The generality of women seldom send for an accoucheur more than four hours previous to delivery.

Seventh, The regularity and comparative length of the different stages, are also various, but it may be observed, when a labor is protracted to its utmost extent, that the delay takes place chiefly in the first, which in most cases occupies treble the length of the second.

The first stage may be tedious
From the debility of the uterus;
From rigidity of its mouth;
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From premature evacuation of the waters; From injudicious voluntary efforts; or

From the pains becoming prematurely blended with the second stage, viz. bearing down efforts being made, before the os uteri is dilated.

The second stage may be protracted by a variety of causes; such as,

- I. The irregularity of the uterine contraction;
  - II. A suspension of the bearing pains;
- III. The head not turning in the most favourable direction; or,
- IV. The rigidity of the external organs. When the latter is the principle cause, the delay will occur towards the end of that stage.

Eighth, In general a first case is more lengthened than a subsequent one; this depends on the facility with which the soft parts dilate, after being once fully distended.

#### Illustration.

From the effect of gravity the child would be born, if not opposed by the rigidity of the mouth of the womb, vagina, and external parts; for after a time they relax, and the child is expelled; but nature uses means to get rid of this rigidity; as,

The contraction of the womb;

The pressure of the diaphragm;

The action of the abdominal muscles, and indeed, sometimes

The whole body taking a part to overcome this obstacle.

The rigidity of the parts is called the resisting, and the means to overcome it, the moving power:

As long as the rigidity is more than the power, the fœtus remains in the utcrus; but

When the power is greater than the resistance, the child is delivered.

# Incidents of Labor.

The symptoms which usually accompany labor are,

First, Mental perturbation, or fear for the eventful result, which often arises during the first change made on the os uteri at the commencement, and seems to owe its source from the consent between the uterus and the mind.

Second, Rigors, or shivering, resulting from an increased irritability. They may vary in degree, from a gentle tremor, even to a concussion of the frame, without danger, (if connected with uteriue action.)

Third, Strangury, or difficulty and pain in passing the water, occasioned by pressure of the head upon the neck of the bladder, this is a favourable symptom when not too violent, as it shews a natural presentation.

Fourth, Suppression of urine; causing pain in the regio pubis. It generally arises from the same cause; though it sometimes occurs through the neglect of a very essential precaution, viz. that of encouraging the patient to void the contents of the bladder frequently. If it were done during the first stage, the use of the catheter, would seldom be required in the second.

Fifth, Involuntary discharge of urine, caused by pressure on the fundus of the bladder.

Sixth, Micturition, produced by the same cause: therefore it is only the lowest part can hold urine, and this soon becomes filled.

Seventh, Vomiting, is a sympathetic affection of the dilatation of the os internum, which re-acts upon the uterus, augments the enlargement of its mouth and cervix; whereby, retching becomes both a cause and the effect of dilatation, tending to expedite labor; going off, when the os uteri is fully dilated,

Eighth, Tenesmus, this may arise from an irritable state of the rectum; or the pressure of the uterus.

Ninth, Frequent discharge of fæces, bespeaks a speedy progress of parturition, leaving room in the parts, and teaches us to infer, that the bowels will not obstruct the passage of the fætus, (though they may sometimes render it more tedious,) by being laden with fæculent excretions.

Tenth, A discharge from the vagina of a viscid glary mucus, resembling the white of an egg, is often observed, and considered a near precursor of delivery; it is that substance employed by nature for closing the os tincæ after impregnation, till the evolution of the fœtus.

Eleventh, As labor advances, there is an

increased flow of the vaginal secretion, of less tenacity than the former, produced by pressure upon, and dilatation of the soft parts; which latter its presence tends to facilitate; whereby that fluid becomes both a cause and effect of an augmentation thereof.

Twelfth, The evacuation of a sero-sanguineous discharge, which is termed a shew, is a proof of the progressive expansion of the es uteri; or a consequence of the separation, of a portion of the decidua.

Thirteenth, Cramp of the lower extremities, shows the descent of the head into the pelvic cavity, by its pressure on the femoral nerve, as the latter passes through the ischiatic and obturator foramina.

Fourteenth, A powerful inclination to sleep, and a copious perspiratory exudation, are the results of excessive pain; the former renews the strength of the patient; and unitedly they tend to relax the soft parts.

Fifteenth, An acceleration of the pulse, both in strength and frequency.

Sixteenth, Periodical pains, accompanied by the greater number, or all the preceding symptoms, in their combined operation, constitute the true criterion of labor: The regular mode is for the three

To commence in the loins;

- surround the abdomen and pubes;
- attack the upper part of the thighs; and
- extend down the inner sides or back of the latter. The duration of the pains is variable, at first they may be half a minute or less, by degrees remain longer and become more severe; likewise, they are often various during the same period, one or two may be strong, and then several inconsiderable ones follow. Their periodical return depends on muscular action; therefore, during their intermission, the patient is perfectly well; the intervals between their subsidence and renewal may be five, ten, fifteen, twenty, or thirty minutes, more or less, according to the advancement of labor. The effect of these pains causes them to have two denominations.

I. They are described as being sharp, and sometimes so severe, as to be called grinding, cutting, or dilating, which imply such as occur during the dilatation of the os uteri; and frequently induce the patient to scream out aloud.

II. Forcing, bearing down, or expulsatory pains, intended to designate such as succeed the abridgement of the cervix uteri, and the enlargement of its opening, cause the patient

To take a full inspiration,

To hold her breath, and

To bear down with all her force. The aggravation is not uniform, sometimes in the middle of the stage the pains are more trifling than in the former part of it.

The actions and tone of voice often express, not only the kind of pain but the actual progress and state of labor. The throes that are felt chiefly in the abdomen, are not so effective; they are most distressing in the lumbar region, whilst the os uteri is dilating; and often violently forcing, just as the presentation is about to dilate the os externum; likewise during its passage they are so vehement as to excite a lamentable outcry of suffering, when the emergence of the head under the pubic arch, is generally the immediate result.

### Uterine Contraction and Pain.

The effects of uterine action, and the causes of labor pain, appear in four points of view.

First point of view. (But to have a better comprehension of the commencement, it is necessary to state that during pregnancy, the fibres of the body of the uterus relax, followed by those of the upper part of the neck, and afterwards the lower part; but still, the extremity of the neck remains rigid.) At the time of labor, the extremity of the neck relaxes, whilst the fibres of the body of the uterus resist, and then the throes increase: whereby the action of the uterus and pains of labor, are considered as synonymous terms, but the latter is manifestly subsequent to, and the first effect of the former. Likewise uterine action is succeeded by additional effects, as

- I. Dilatation of the os uteri;
- 11. Expulsion of the uterine contents;
- III. Diminution of their connecting vessels;

1V. Consequently the prevention or suppression of hemorrhage.

Second point of view. In describing labor pains, two principle causes are enumerated.

I. Involuntary action of the uterus, tending to compress its contents for their expulsion; and

II. Local resistance made to their passage, by muscular power, with which they are surrounded. The pain is proportional to the sensibility of the containing parts, and their strength of opposition.

Third point of view. The measure of uterine contraction is estimated by the counteracting force; which is manifested by the proportionate degree of pain; and the latter is understood with tolerable accuracy, by the expressions of suffering made by the patient.

Fourth point of view. If the pelvis is capacious, and the parts through which the fœtus passes, are so disposed to dilate, that they offer but a passive, or feeble resistance to the excluding force, a woman will be delivered comparatively without pain.

### Observations on Natural Labor.

First, In the state of simplicity, women in all climates bear their children easily, and recover speedily; but this is more especially the case in those countries where heat relaxes the fibre.

Second, The celerity of the process, cannot be previously determined; consequently many women bear their children alone, becoming rapidly and unexpectedly worse.

Third, The facility with which the parts dilate after they have been once fully distended, accounts for the first two stages of a prior labor, being slower than those in subsequent ones; we should be led however, to suppose, that parturition being a natural function, ought to be as well and as easily performed the first time as the fifth; the process not depending upon either habit or instruction. But in this as in many other cases, popular opinion is founded on facts; for although in some instances, a first labor is as quick as a second, yet in general, it is longer in its first and second stages.

Fourth, Though the head be above the perinaum, if the involucrum give way, it will be expelled in a few seconds; and many have a continued bearing-down pain, from the bursting of the membranes till the child is delivered.

Fifth, With many the bag breaks, the head occupies the eavity of the pelvis; and the waters retained above, are discharged in a large gush after the child is born.

Sixth, In some, after the membranes burst, and the liquor amnii oozes away with increased intervals between the pains, labor will be protracted.

Seventh, When the pains are slight, few, and produce little apparent effect on the os uteri, the orifice of the uterus hard and rigid, or thick and puckered during a pain, the labor may be lingering; on the other hand, when the pains are brisk, the os uteri thin and soft, a speedy delivery may be expected; but in the first case, the unfavourable state of the os uteri may be unexpectedly removed; so in the second the pains may become suspended or irregular.

Eighth, During the process, the mind has

influence over the uterus; hope and confidence increase its action, fear and dread retard it.

Ninth, The cervix uteri, with the head of the fœtus inclosed, and descended into the pelvic cavity, constitutes the uterine tumor; which, as the os internum dilates, becomes diminished in its breadth.

Tenth, If the os uteribe sufficiently dilated at the commencement of or during the first stage, the presentation may be easily ascertained through the membranes, by examining in the absence of pain.

Eleventh, A change is often observed to take place in a labor at the sixth, twelfth, or twenty-fourth hour after its accession.

Twelfth, Should the uterus descend very low before the os uteri begins to dilate, there will be a species of prolapsus, and delivery protracted.

Thirteenth, In the first stage, the head may lie diagonally in the upper cavity; if the finger touch the sagittal suture, and is, by guiding it in the corresponding direction, carried to the posterior fontanel, the presentation is favourable; and vice versa if led to the anterior one.

Fourteenth, Patients generally recover better after slow than quick labors, unless the process has been interfered with.

Fifteenth, The further parturition is advanced before the membranes break, the safer it terminates; there is less stress upon the parts, whilst they acquire a disposition to dilate.

Sixteenth, In forming our opinion on the duration of a process, we should be influenced

By the state of the pelvis, By that of the os tincæ, By the strength of pains, and

By our knowledge of the patient's former labors.

Seventeenth, When the pelvis is capacious, the head passes through its cavity without change of shape; but when the former is contracted, the figure of the latter alters accordingly.

Eighteenth, Sometimes a patient during labor, in consequence of a delicate frame, severe suffering, and solicitude connected therewith, becomes very apprehensive; and at the

same time feeling the pains distressing, without a sensation of bearing down, concludes

That she has been, or is to be long in labor;

That something might be done to assist her; or,

Has been done, which had better have been avoided; and

That there is a wrong position of the child, or

A deficiency of her own power; therefore, she gets into a state of desperation; declaring her strength fails, and appears fearful she shall never get over it. Some shew symptoms of extreme despondency, impressing those around them with ideas of such imminent danger, as requires immediate assistance.

Although the above circumstances may be truly appalling to the tyro in midwifery, they afford me an opportunity of observing, that I have always experienced the consolation, of finding the increase of pain and the crisis of labor, uniformly attended with an augmentation of muscular power; so that, as extremity increases, animal strength and pristine vigour prevail.

Nineteenth, The pains increasing in frequency, severity, and duration, accompanied with a corresponding dilatation of the os uteri, and descent of the head, mark a speedy travail.

Twentieth, During the early period of labor, on the cessation of pains, there is perceived a retraction of the presentation, owing to the uterus becoming passive; and in the second stage, on the subsidence of pain, may be observed an additional descent of the fœtal head, induced by re-action of the vaginal parts.

Twenty-first, When the waters are not discharged, till the head is emerging under the pubic arch, shews the labor has been uninterrupted.

These observations, it is presumed, convey a tolerably correct idea of the usual occurrences, concomitant with the parturient process.

Popular distinctions of Labor.

Women have a mode of distinguishing

labor, with which we ought to be acquainted, as,

First, Sick labor, because, often attended with sickness and vomiting.

Second, Sleepy labor, because, during the intervals of ease, they are drowsy and fall asleep.

Third, Wet labor, is when the waters are dripping away, or where there is an abundant secretion.

Fourth, Dry labor, is a want of secretion, which shews rigidity of parts.

#### Cautions.

Various admonitions are stated in this, and five following subjects, against interfering with such labors as may ultimately be effected by nature.

Whilst the reflecting mind contemplates the wisdom of the deity, and estimates his all-sufficiency by the profundity of his works, it turns to consider the process of parturition as a wonderful providence, and the most beautiful example of his omnipotence.

The endowments bestowed on nature, are

purpose, and are so grand in their effect as to supercede all the resources of human art, therefore, the Accoucheur should be an observer thereof, and ever go hand in hand with her design: if the mal-practices of professional aid oppose those steps, great are the abilities eventually required to set them aright; but he who takes natural efforts for his guide, will never act officiously whilst those powers are active: unless any difficulty arises, which, from unnatural causes, she is incompetent to surmount; then, and then only, is he to come forward as her auxiliary.

Not long since, when midwifery became laid down according to rule, and its philosophy was but little understood, its practice was thought to require the employment of much manual interference, and labors were in consequence frequently artificially produced, often with danger to the parent, and fatality to the child. It was thought the true criterion of able management, to expedite the process by skilful instrumentality; hence pains were augmented by various inventions, and the ingenuity of an useful profession, was

exhausted in discovering modes to accelerate labor, or in other words, to counteract nature.

This line of conduct has been productive of incalculable evil; and if the vectis and forceps have not often been the means of hastening the patient to an untimely end, they have tended to destroy health, and subsequent ability to procreate.

That the resources of the constitution are adequate for natural parturition, without coadjuvancy, is a remark as old as it is true, and we have only to refer to Holy Writ for its verification. The Hebrews in Egypt were left to nature, in their travail, and we have no instauce on record to prove, that their labors were not short, easy, and safe.

Women in extremity naturally call for relief, and anxiously expect the practitioner to assist them, but no intreaties are to induce us to accelerate any part of natural labor; yet, it is always becoming to shew particular attention, especially in protracted cases, by soothing language, or by passing the end of the finger just through the os externum, now and then, during the second stage; whereby

Ascertain its progress;

Amuse the patient; and

Compose her mind; but actual interference retards delivery,

By removing the secretion,

By changing the position of the fætus, or

By inflaming the parts of the mother.

# Preparation of Parts.

The natural secretion, during the process, especially in the first two stages, is invariably disposed so as to prepare the external generative organs for the evolution of the fœtus; therefore we should be careful in our examinations not to remove this covering, as no artificial substitute can be formed equal to it.

# Causes of Laceration.

First, The tenderness and delicacy of the perinæum subject it, in common with other vascular parts, to inflammation; which, independently, is often produced by the early interference of inexperienced practitioners, its consequences must be an unavoidable

laceration, when that part is put upon the stretch.

Second, The position a patient is placed in, during the emergence of the fœtal head, renders that accident more likely to occur; the custom of this country is for the process to be effected on the left side, with the knees of the patient drawn up, which projects the presenting part in a line unfavourable for the perinæum. If the woman were placed on her knees and elbows, it would be more natural, it is a position often instinctively adopted before the mode of custom is imbibed; then the presentation, by its line of gravitation, lessens the pressure upon that part.

Third, Disturbance of the order of labor; every change made in the uterus is successive, and every pain has two distinct effects;

Dilatation of some, and

Preparation of other parts.

If by hurry the head be brought in contact with such as have not acquired their dilatability,

If by an artificial extension, we attempt to supply any apparent deficiency in the natural,

If by endeavouring to slide the perinaum over the forehead and face, it will sooner lacerate than dilate properly.

Fourth, Exertion of voluntary force. The perinæum is not injured, because the head of the fætus is large, or passes in a particular direction, but because it passes too speedily, it therefore rarely happens in very slow labor.

Fifth, After the expulsion of the head, the hasty extraction of the body; especially when the latter is done, regardless of the vaginal direction.

Sixth, The incautious use of the forceps, which refers to the operative Accoucheur, neglecting to depress the blades on the cranium, during its passage through the external parts.

## Protection of the Perinæum.

First, Avoid irritating the vagina and inner membrane of the perinæum,

Second, Guard against removing the mucous discharge, naturally secreted for moistening the passage. The perinæum is never on the

full stretch, till the vertex, and a great portion of the fœtal head, have descended under the pubic arch; we may (but only at that critical time) use a moderate and uniform degree of pressure on the ossa parietalia, inclining one over the other, and the posterior fontanel towards the pubes, in imitation of nature; though this attention is very seldom necessary.

# Impropriety of Hot Cloths.

The injury of heated napkins to the generative parts during labor, is considerable. In a state of nature, this custom is unknown, but in society it is common; women being unacquainted with the peculiar use or beneficial effect of the natural mucus, while lying on the parts; the higher the sphere patients fill in life, the more prevalent is this attention, now the practice is so common, that nurses frequently apply such to the external parts without being desired; and they are expected to keep hot napkins near the fire, in readiness for that purpose. It is admitted, that at the time of their application, temporary

comfort is afforded to the patient, but they ought not to be used after labor is fully established.

The vaginal secretion is copious during the second stage, when, if it were allowed to remain, its properties would be advantageously disposed, to prepare the soft parts, for the safe and easy advancement of the head.

In protracted parturition, pressure increasing by the presentation internally, and hot linen absorbing the mucus externally, induce a principle of irritation instead of dilatation, which is likely to cause inflammation of the urethra, vagina, or perinaum; endangering a laceration of the last.

When the discharge is considerable, the patient should lie down, that posture being suited to evade inflammation, or promote relaxation.

From the time of pressure of the fætal forchead on the rectum, by a law of nature, the external organs are covered with their mucus till the child is delivered; unless it be absorbed by the unnecessary attention of attendants, or removed by handling, or by applying cloths to protect the perinaum.

When it is necessary to defend the latter, it should be effected by a more eligible mode of practice; namely, without touching it. Therefore, women in a state of nature, and such as avoid interfering with the economy of the parts, have safer travail, than those of refined society.

# On Expulsatory Pains.

By the degree of uterine action, conjoined with other circumstances, is a patient actuated during labor. It is remarked, that whilst the os uteri is dilating, the pains are sharp and cutting, consequently she is spontaneously excited to cry out; and during the expulsion of the head, is either necessitated to scream, or if she be of a strong robust habit, may be silent, by retaining the breath, to bear down with all her strength.

The latter are directions almost universally but improperly given by the inexperienced practitioner; with respect to those with delicate habits, tender, irritable, or rigid parts, crying out affords relief, by diminishing the bearing down efforts, and giving the parts due 218

time to acquire their natural dilating action; which may prevent,

First, Breaking the membranes prematurely;

Second, An early exhaustion of the patient's strength;

Third, Laceration of the perinæum, Fourth, Rupture of a blood vessel; or Fifth, Descent of the funis below the head.

These evils are not imaginary, having been myself frequently consulted in cases where they occurred from forcing efforts.

I have noticed and invariably found, that during parturition, women act most proper, when influenced by their own feelings only; therefore persons in that state, should never be biassed by others respecting either

Their Drinks, Their Refreshment, Their Actions, or Their General mode of conduct.

# Rules during the latter Stages.

At the close of the second stage, the Accoucheur is to introduce his right hand under the clothes, (as keeping the patient covered during labor, is an inviolable rule) and let the fætal head rest thereon, till succeeding pains detrude the shoulders and body, which are to be supported on the left, and the child kept in the vaginal direction, till additional pains effect its delivery, which completes the third stage.

If the action of the uterus is uninfluenced by art, its contraction will be regular from the fundus downwards, separating and expelling its contents gradually. The premature extraction of the child, or placenta, is liable to cause spasmodic contraction.

# Propriety of Conduct.

It now remains for me to offer some remarks respecting our conduct. A practitioner may be acquainted with the circumstance of labors, and the manner of acting with regard to each; but without attention to some propriety in his conduct, he will not ingratiate himself with his patient:

First, He should pay immediate attention to messages, till an accurate state of the case be ascertained; and afterwards act discretionally, according to the anxiety of the person, or by a knowledge of her condition.

Second, A practitioner ought not to wait long in a lying-in room, unless his attendance be absolutely necessary; it conveys an idea that delivery draws near. And his absence removing restraint, she will more readily attend to the calls of nature.

Third, During the first stage, he should never acknowledge a patient to be in labor, especially if it be her first pregnancy, as the parts dilate more slowly than in subsequent ones. When a women is persuaded that parturition has actually commenced, she becomes restless, and anxious for its eventful consequences.

Fourth, During the process, a patient is generally solicitous to know its state and duration; it is proper to satisfy her with an opinion on the safety of its termination, but, by no means to prognosticate what time it may take.

Fifth, In tedious cases, a practitioner should never appear tired, or embarrassed, for his very looks and countenance are noticed.

Sixth, Recommend patience, dilatation being a work of time.

Seventh, As strong exertions in the early stage exhaust the patient's strength, she should be restrained from using any, especially in slow delivery.

Eighth, Voluntary exertion is never proper, although accompanied with the os uteri completely dilated, and regular bearing pains.

Ninth, In protracted labor, where the patience of the female is exhausted, some simple medicine should be had recourse to, every four, six, or eight hours, so as to gain time for the advancement of the process, without the woman being aware of its intention; therefore, with an expectation of the salutary effects of the composition, her exertions are suspended, and if she be examined between each dose, and declared better, it will be an encouragement for her to persevere in its use. By this finesse, considerable time is gained unnoticed by the patient, nature allowed to work her own way quietly, and the practitioner can truly pronounce her better, she being so much nearer delivery.

## Management of Labor.

In a state of nature, the process is conducted with little ceremony, but the refinements of society have established the custom of making considerable preparation; however, the following particulars appear to be necessary:

First, The bed is to be made in the ordinary way.

Second, A sheet folded square, or once each way, is to be laid transversely over the bottom one, with a tape of sufficient length, attached to each corner, so as to allow it to be fastened to the sides of the bedstead. This arrangement is provided for the reception of the patient, after delivery, when she is sufficiently recovered to be removed thereto; care being taken in the mean time to keep it clean and dry.

Third, In general, during labor, we find a considerable discharge, especially at, or after the rupture of the membranes; in order to absorb as much as possible thereof, and to preserve the under bedding from being wet,

or soiled, a large skin of morocco is to be laid on the right side of the doubled sheet; over which a blanket folded in four-square; above it place one end of a sheet, folded twice length ways; these (called the guard) are to remain under the patient's breech during labor, and the other end of the last mentioned is to hang over the right side of the bed, convenient to lay on the practitioner's knees when necessary.

Fourth, After the pains have began, the woman generally dresses in dishabille; but when the process is more advanced, the dilatation of the os uteri considerable, and the vaginal secretion become profuse, she should have a clean shift, a broad banded skirt, and night gown, put on and turned up round the waist; the foul clothes laid under the breech and lower parts, previous to placing her in a proper position on the bed for delivery, and have only a slight covering over her.

Fifth, A nurse and one female are sufficient attendants, a greater number tend to create confusion.

Sixth, Frequently female friends call to see a patient, particularly in tedious cases;

I must here remark, that during the stay of many gossips,

Injurious advice is often inculcated,

Improper management soon adopted, and The woman being in pain, with her mind in a state of distress, is equally soon alarmed: Attendants should, therefore, scrupulously avoid the relation of critical cases, or surprising events, respecting other persons. Whispering is equally improper in a lying-in room, it indicates concealment, and when added to the above improprieties, is likely

I. To depress the spirits,

II. To diminish the confidence, and

III. To alter the conduct of the patient, all of which tend to disturb the functions of the uterus. Natural and safe labors almost universally occur under prudent management; therefore, none else should be adverted to in the hearing of any woman in travail.

Seventh, Preparatory to the birth of a child, should be got in readiness,

Vinegar,
Flannel cap,
Square piece of flannel for a receiver,
Fair of scissors,

Two thread ligatures,
Hot and cold water,
Soap,
Sponge,
Rag,
Flannel belly-band,
Pins, and
The child's clothes.

Eighth, during the early stage of labor, frequent examination may prove a source of irritation, and is unnecessary, if the presentation is found to be natural; but in the succeeding one, the frequency of that operation, should be proportionate to the apparent rapidity of the process, and when the pains are very severe, with the head advancing, we must not leave the bed-side.

Ninth, The bladder and rectum to be kept empty.

Tenth, A round towel fixed to the side or post of the bedstead, may be convenient for the patient to hold, not to increase the bearing down efforts but in order to preserve steadiness during expulsatory pains.

Eleventh, A woman may be delivered in any way most convenient to herself, or suit-

able to the exigence of the case, either as for example, whilst,

- I. Kneeling on a cushion;
- II. Resting on her knees and elbows. This appears to be the safest method, it takes off much pressure from the perinæum; it is the custom in Ireland.
- III. In a sitting posture, on a chair with a semi-circular seat: this I found to be the custom in America; it is opposite to the former, and increases the danger of a perinæal laceration.
- IV. On the left side, with the knees drawn up towards the abdomen, is the mode usually adopted in this country.

Twelfth, We should manage patients with professional propriety, keeping them as near to a state of nature as the custom of society admits.

Thirteenth, Allow due time after the birth of the child, for the change from fætal life; that respiration may be fully established.

Fourteenth, During its passage through the external parts, it is a rule to separate the knees of the patient: this is more necessary with corpulent subjects, than with those who

tre delicate. Frequently we find they do it by instinct, but many children are delivered equally safe, with the knees of the mother closed.

Fifteenth, Immediately the child is born the practitioner ought to keep it close to the mother, (as the funis may be short) and let a flannel cap be put on the head of the infant to prevent its taking cold.

Sixteenth, When the funis is divided, wrap the the child in a flannel receiver, ere it be given to the nurse.

Seventeenth, The hand of the practitioner should be applied to the abdomen of the patient, to ascertain whether there is another child; should that be the case, the fact will appear by a continuance of the abdominal rotundity, but if not, the muscular parietes will be flaccid to the touch, and the contracting uterus, readily distinguished, inclining by the gravity of its fundus, towards the left side.

## Easy Parturition.

Under this head, caul, hood, and ovum

cases frequently occur.

First, Patients
With a delicate habit,
A capacious pelvis,

The os uteri thin, or dilated in the early stage,

The generative parts yielding, and

The fætal cranium of a moderate size, descending to the os exturnum before the membranes rupture, the former may be expelled without perforating the latter, by which, part thereof will be torn from the rest and envelope the head, denominated a caul.

Second, If the membranes lacerate all round from the edge of the placenta, and the child be delivered, with its head and shoulders invested therein, it is called the king's hood.

Third, If the fœtus be small and the seeundines separated from the uterus, they may be expelled entire; containing the fœtus, funis umbilicalis, and the liquor amnii; all of them when so inclosed, are termed the ovnm. The latter should be opened, and the hood or caul removed, to allow of immediate respiration. A superstitious idea prevails, that if the caul be preserved, the child cannot be drowned. The method of preservation consists merely in greasing a sheet of white paper, and thereon expanding the separated portion of the membranes.

### Parturient Observations.

These are suitable for the student to form. Throughout the progress of child birth, opportunities are afforded of gaining much useful knowledge, and a deal of practical information, by attention to the following particulars.

First, If the patient be up, observe her motions and manner of walking; the nearer she approaches to delivery, the more helpless will she appear in all other actions.

Second, The frequency of pain, shewing the state and advancement of the process.

Third, The strength and kind of pain, by her actions, cries, moans, or groans.

Fourth, The manner of arranging the bed for delivery, and preparing it for the reception of the patient afterwards. Fifth, The adjustment of her apparel, previous to being placed in a proper position on the bed.

Sixth, The list of necessaries requisite against the birth of a child.

Seventh, The manner of examining patients. Eighth, The parturient symptoms, and positions.

Ninth, The Accoucheur's management of, and mode of conduct during the process.

Tenth, The reception of the child at its birth, with attention to the fætal existence, on the apprehension of suspended animation.

Eleventh, The application of ligatures to the funis, and division of the latter.

Twelfth, The washing and dressing the child.

Thirteenth, The management of the funis, remaining attached to the umbilicus.

Fourteenth, The expulsion of the placenta and membranes, as well as the removal of them, together with the coagula.

Fifteenth, The proper application to the generative parts, subsequent to delivery.

Sixteenth, The mode of ascertaining twin cases.

Seventeenth, The manner of removing the foul things, and placing the patient in bed, and

Eighteenth, Directions given for the management of the latter, during the puerperal state.

## The Student's First Case.

When gentlemen have been present at one or two natural labors, in company with an Accoucheur, for illustration and general information, similar to the preceding observations, they generally feel sufficient confidence afterwards to attend alone; and will be fully competent for it, if an uniform attention has been paid to, with a full sense and recollection of, the principle heads contained therein; which, for the sake of perspicuity, and to refresh the memory, I shall readvert to.

The parts concerned in utero-gestation and parturition.

The progress of the head through the cavity of the pelvis.

The causes and predisposing causes, with

the changes preparatory to, and symptoms accompanying labor.

The kinds of pain, the influence of expulsatory pains, and the distinction of such as are false.

The various cautions against interfering.

The use of the vaginal secretion.

The protection of the perinzum.

The various states of the os tincæ, with the commencement, form, and means of its dilatation, shewing the process of nature therein.

The occasional vaginal examinations, during the first two stages of labor, to ascertain its progress.

The reception of the head on the right hand, at the close of the second stage, the supporting the body on the left, and guiding the child in the vaginal direction, during the third; with

The natural descent of the placenta, in finally completing the last stage.

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